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No. 11

A FRENCHMAN'S RIDE FROM NEW YORK TO BOSTON.

By GEORGES DUPUY.

Over the telephone came this message:

"Say, I think there is a little room left for a Frenchman in an English Daimler that goes to Boston to-morrow over our nice American roads. Would you care to come?"

Of course, I accepted with alacrity Tom Moore's invitation, and it meant my first long ride in America.

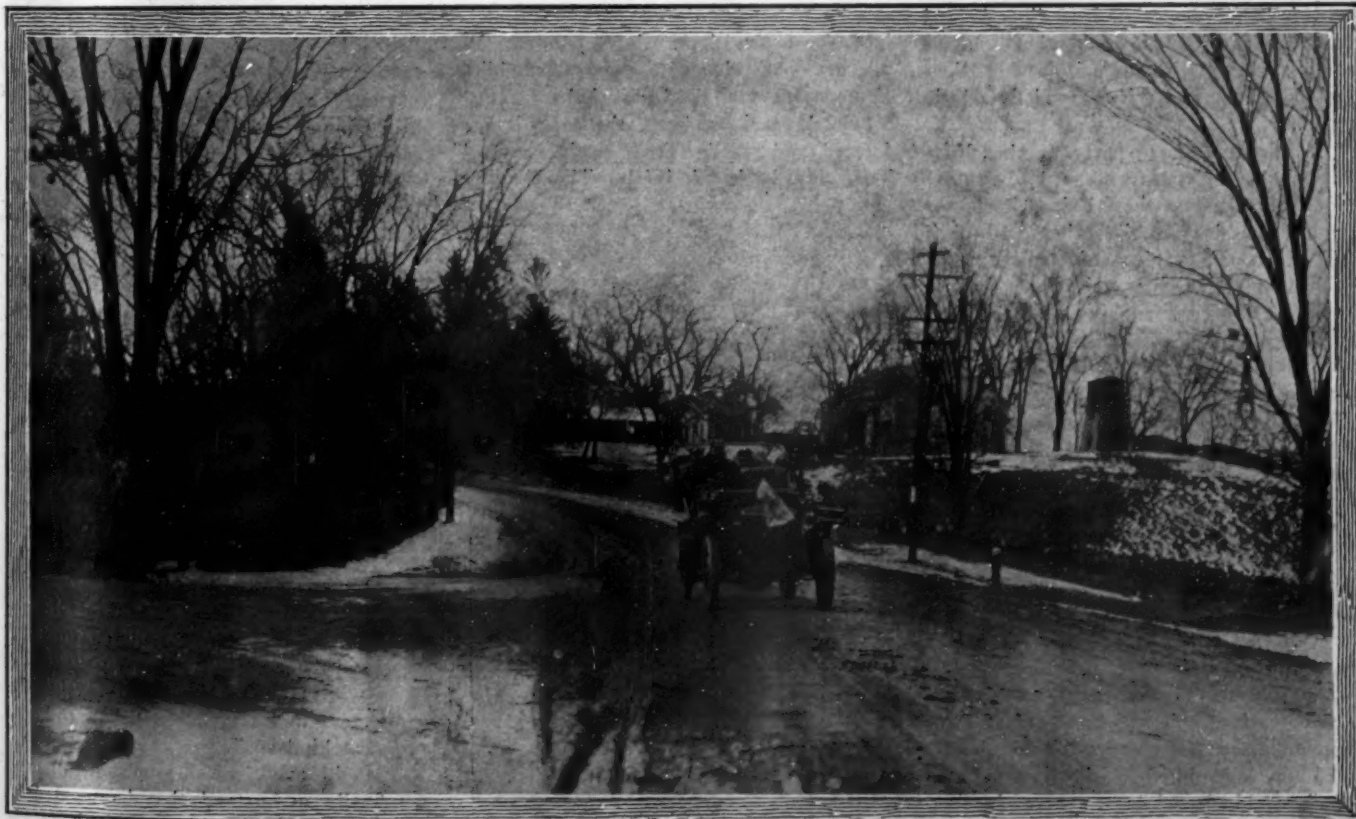
Saturday morning, March 10, was glorious at 6.30 o'clock, at which hour we were noiselessly gliding through Central Park, five people packed like herrings in a barrel.

Mr. Demar was at the wheel; Mr. Carter, son of the great actress, alongside him; while in the rear seat of the tonneau, Field of the Brooklyn Eagle, Spooner of photographic bent, and myself were located. I never thought a mere photographer could be so awfully big and swollen. He had six overcoats on, and had filled the whole tonneau with cameras, extra plate holders, grips, etc. He also had an extraordinary black leather mask-cape, adorned with enormous goggles, mouth and nose holes—altogether the ugliest thing you ever saw.

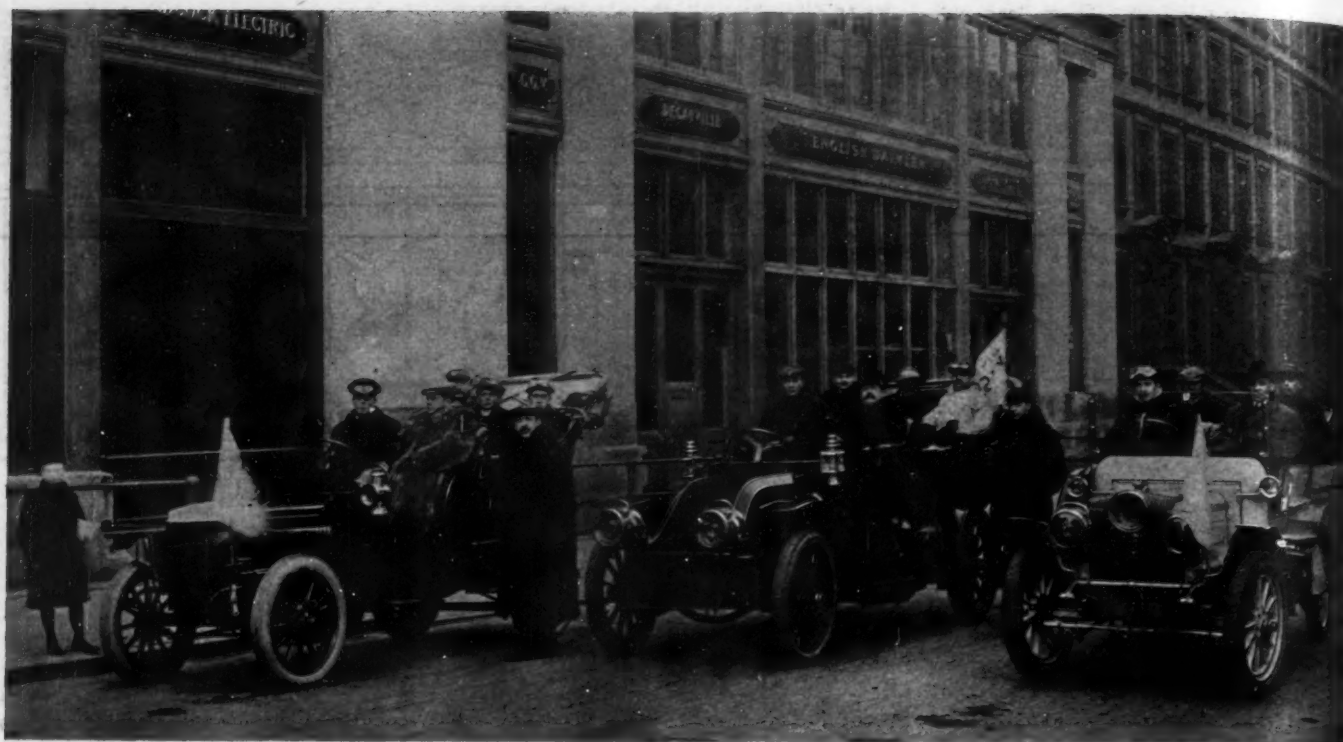
I wore my old *pardessus de route* which covered with me many a thousand kilometers on the roads of France, and no goggles at all, to see the scenery better.

A. W. Church's C. G. V. was tearing the road ahead of us. Pretty cold morning, but the skies were of such a tender hue, and my cigar so tasty after an early breakfast.

Now to New Rochelle. The big golden globe ascends the sky and melts the last soft, dim mists of dawn. Jerome avenue—



IN MASSACHUSETTS WINTER LINGERS WELL INTO MARCH, AS THE PIONEER SPRING TOURISTS DISCOVERED.



THE DAIMLER-C. G. V. TRIO IN NEW YORK CITY JUST BEFORE STARTING FOR BOSTON.

Pelham parkway—several bridges and jumps, and harsh-looking policemen. The big red C. G. V. passes us in a rageous roaring. Our excellent machine keeps a nice, noiseless gait, and the man at the wheel knows his business—New Rochelle. Turns, trolley cars, wide avenues.

Next Larchmont. On the way to Rye, a heteroclit green car with an enormous body, full of brass trimmings, like the old stage trunks of our grandmothers, passes us on a curve, with an awful Diga-Diga-Diga-Bang!!! The driver could fly a little straighter.

The third car of our party, another English Daimler, light gray, comes by us under a road tunnel, somewhere before Portchester, but we do not allow her too much liberty. Here's a piece of straight road, not bad at all. Demar raises the throttle a trifle. Vrrrrr! and we politely pass Madame C. G. V., which is full of the loud talking of Gerrie, Reeves and Wetmore. By-bye!

Greenwich, Conn., Stamford, and terrible muddy road—ruts, side jumps and everything. I think I feel the straining of Demar's arms and wrists. Norwalk, Westport, Bridgeport. We stop, all three of us, and take gasoline. Decidedly the ride is fine.

We continue at 9.15 o'clock. Now the powerful C. G. V. is ahead; she shows us her yellow hood for a time and glimmers in the distance. Stones and mud again above Stratford. As Nicholas, the Canadian, would say: "The automobile she jump, she jump, and bim'bye she jump some more." Suddenly while we were dancing an uncomfortable two-step, I felt a kind

of hard knock. I said to Demar, "I am afraid our rear axle touched one of those boulders."

"Never mind," he replied; and right after we struck a decent stretch of way; but the engine stopped just like out of breath. "What is it?"

The C. G. V. is far ahead, the other Daimler dashing after her. We are in a desolate spot, with not a soul in sight. The sky grows dark. Snow coming. We all get out, sleepy Spooner grumbling. Someone goes at the back of the car.

"Good gracious, boys, the tank is perforated, and gasoline flows out in streams!" That was the knock I felt. The big tank,

in fact a 20-gallon one, had been disjoined at both its edges and leaked very badly.

I shall not undertake the task of describing to you the long, long hours we spent in that desert, very hungry and cold, with all kinds of weather. A little boy passed by. We asked him to go to the next village and have the plumber come with a wagon to fetch the tank, solder it carefully, and take it back. The boy ran to Milford. In the meantime, we got the tank out easily enough. There was a young passenger with us who, all the time, would give advice, show the bolts to be unscrewed, talk of "gravity feed," compression, etc., with hands in his pockets. Spooner would take snapshots. White, soft snow started falling, just to increase our luck.

At that moment a funny-looking old cart, dragged by a respectable, lean, bearded white horse, passed on the road. A side sign on the wagon informed us that the driver and owner had "all kinds of pastry" for sale. We all made a rush for the blessed vehicle, and came back to the tank, our hands and mouths full of mince, apple, lemon, and what-you-call-it pies. Spooner had four pounds of chocolate eclairs in his cape and three pies in his camera.

Well, at last, after forty-five minutes, the plumber showed up, in a buggy with a nigger-fellow driving the horse. He was an old man, lame, dirty and stammering. We said "Have you got your soldering tools with you?" "S-s-say, g-gent-gentle-gentlemen, the b-b-boss he w-wants to know wh-what kind—"

The old man had no tools at all, and we finally understood that he wanted to take the piece with him, repair it in his



A MORNING VISIT WITH THE MILKMAN.

shop, and bring it back. "How long will it take?" said Mr. Demar. The man said it would take about ten minutes, but the village was four miles distant, and his horse couldn't run very fast.

Well, to make a long story short, we had the tank back at ten minutes to three o'clock, having been waiting on that very spot about six hours. We replaced it in a hurry, paid the old man, got the pressure, started the engine, and than kGod, away we went.

At about one mile and a half on the way to New Haven, we sank in the mud to the hubs. We all got out again. Our driver was trying to make the clutch work with very slight foot appeals. Like an impatient beast, the motor would roar, the rear wheels turn like mad. All of us—except, however, that young man with the hands in his pockets—took old planks out of a fence near by, placed them in front of



A CONNECTICUT ROAD NEAR SAVIN ROCK THAT CAUSED TROUBLE AND DELAY.

I hope. I always will remember the splendid ride by moonlight we had then between Meriden and Hartford. Under the

longitudinally cut by trolley rails. On the top of a hill we discovered, under the moon on our left, two fine cottages posted there like sentinels, and in the distance the big electric-lighted dome of Hartford's capitol.

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After a good rest in a good bed in a good hotel, 5.30 A.M. saw us again on the road, with all the charm of dawn surrounding us. Very high from a mountain road we saw at our feet, bathed in the rays of the sun, Springfield, and the wide, calm, clear Connecticut River. Later on it was alongside a rocky hill, a wild creek full of boulders, and then Brimfield and Warren. From there we ran on the most magnificent road I ever saw, until we struck the immense Boston boulevards in our good-natured, good-willing, powerful, and supple English Daimler, which perseveringly devoured the road, hardly sounding like a humming-bee.

We arrived at Boston at 1.30 P.M.—pleased and refreshed with our varied and eventful journey. To me it was far more enjoyable than the railroad trip back to New York. The C. G. V. and other Daimler, having had good luck, had arrived in Boston the previous evening at 9.30 o'clock.



AT WINDSOR LOCKS (CONN.) THE ROAD WAS RUTTY, BUT THE CARS MET THE TASK.

the wheels, and were successful enough to get the machine out of there. Saved!

* * * * *

Now our eyes are charmed by a delightful panorama. We are traveling alongside the Sound. It is the low tide. The blue, calm sea, bordered with nightmare-looking rocks, spreads to the horizon with all the enchantment of the setting sun, which lights big fires in the clouds over yonder.

New Haven. Mr. Carter takes the train there, and we take gasoline. North Haven, Wallingford. Everything is going fine, when our left rear tire blows out. Mr. Demar, the driver, already somewhat nervous, announces that there is not a pump nor air-chamber nor even a jack in the car. Well, we are compelled to go on the rim to Meriden, three miles on pretty bad roads. A German repair man there says he can fix that in a very short time. It takes him about two hours, as there are numerous holes in the air chamber on account of its bad treatment on the road, while running disinflated. We take dinner at Meriden, and at 8.15 P.M. are ready again to take the road and try to make Hartford.

Now all our troubles are ended for good,

silvery light, fences, houses, trees, gardens, fields, cemeteries, churches, would assume strange forms. It reminded me, in some parts, of the famous "frightful lands" in our French Bretagne. Really, with the nice regular speed of the noiseless car, certain gliding shadows of the turns were quite a sensation. Further on it was Hartford, announced by wide asphalt avenues,



MASSACHUSETTS HAS MANY MILES OF ROADS SIMILAR TO THIS ONE NEAR WARREN.

Report on Farm Motors Favors Free Alcohol.

WASHINGTON, D. C., March 12.—Advocates of the bill pending in Congress to remove the internal revenue tax from grain alcohol used for industrial purposes are elated over the fact that President Roosevelt has expressed his hearty sympathy with the measure. A stiff fight against the bill is being waged by the wood alcohol people and other interests who claim they will be driven out of business if the tax is removed from grain alcohol as proposed, but so far the free-alcohol advocates seem to have the best of the argument.

Testimony on the subject has been continued before the Ways and Means Committee during the last few days, and much valuable data was submitted. A statement by C. J. Zintheo, the expert in charge of farm machinery and farm motor investigations of the Department of Agriculture, found much favor with the members of the committee. The following excerpts from Mr. Zintheo's paper are of interest:

"A few facts in regard to the use of denatured alcohol in foreign countries may be of value. Germany produced and used in 1901 denatured alcohol to the extent of 30,642,720 gallons, as compared to 10,302,630 gallons used in 1886. Of this vast amount about two-thirds was of the ordinary grade for power and heating purposes, such as costs 13 1-2 cents per gallon.

"For motor and automobile purposes the practice prevails in some sections of Germany of utilizing 30 per cent. of ordinary gasoline as a denaturing agent. Experiments have shown that a mixture of equal parts of alcohol and gasoline can be used to advantage, especially in large motors. The first attempts made in Germany to employ alcohol for internal combustion engines were not successful, the difficulty being to get the alcohol to a sufficient state of vaporization. It was only after taking the peculiarity of alcohol into consideration, viz., its difficult inflammability, that success was obtained in advantageously employing alcohol for motors. What was first regarded as a drawback in alcohol turned out to be an important advantage, for in consequence of the difficulty in igniting the air mixture it could be compressed to a greater extent in the motors, using up much more of the heat than was possible with gasoline or kerosene engines. A good alcohol motor works, when fully loaded, at a thermal efficiency of over 30 per cent., while a similarly good gasoline motor exhausts the warmth of its fuel in the most favorable case at 20 per cent., and the kerosene motor hardly reaches 18 per cent. In consequence of this, alcohol can easily compete in an economic sense with gasoline and kerosene motors. The comparative cost of operating alcohol, gasoline and kerosene motors in Germany is given as \$0.016 per horsepower hour for alcohol; \$0.017 for gasoline, and \$0.016 for kerosene.

"One advantage of alcohol engines is that not so much heat is radiated from the cylinder as in a gasoline engine, where it has to be surrounded with a water jacket and a rather large auxiliary tank of water to keep it cool. This is a great disadvantage in portable and traction gas engines. Some engines of small horsepower are now air cooled. This could be accomplished with larger horsepower engines using alcohol, which would reduce both the weight and the cost of the engines, and make them more suitable for traction purposes in plowing soil and cultivation, as well as for automobiles."

The Railroads Are Interested.

SOUTH BEND, IND., March 13.—The early Spring finds an increased sale of automobiles in this section of Indiana. South Bend officials have felt called upon to place greater restrictions on speed in the city limits. This has been caused by the demonstrators of the local factories who have been tempted to "show off" at great speed in much used thoroughfares.

South Bend is the center of more auto talk than perhaps any other section of the state; some of it has been caused by the recent appearance here of the Strang motor car,

built by the J. C. Brill Company, of Philadelphia. It has been spread broadcast that the Vanderbilt railway system is planning to largely employ auto cars on a number of lines west of Buffalo to even up matters with the electric railways, and it is generally believed that the trial trip of the Strang car is but a preliminary of some such move. The electric roads, to use an expression of a railroader, are "eating up" the steam people. Indiana and Illinois are being gridironed by the urban lines. Their tracks parallel the steam roads for hundreds of miles, and the latter are forced to make some move or abandon passenger traffic.

"It is certain that if one or more of the practical American launches, which are so popular in the United States and elsewhere, were sent here complete and given a fair trial, a ready market for them would easily be found," writes Deputy Consul Heingartner, of Trieste, Austria. "The many beautiful and interesting places in the Gulf of Trieste which can so easily be reached by water make Trieste an ideal city for motor boating, and once the superior merits of the American-made boats become known they are certain to become popular. The excellent steamship communication which now exists between that port and New York would greatly facilitate their introduction."

The Motor Boat Show of 1907.

According to arrangements made last week, the motor boat show of 1907 will be upon the lines indicated in the editorial pages of THE AUTOMOBILE two weeks since—exclusively an exhibit of launches and launch motors, with a sportsman's show on the old lines at a different date. The disadvantages of the former plan, patent to the observer at the opening of the show, were so fully impressed upon the officers of the National Association by the experience of the two weeks that the suggestion of a change met with unanimous approval.

It is now proposed to hold the motor boat show first, from February 19 to 26, inclusive; the sportsman's show following, from March 2 to March 9, inclusive. While the "popular" feature of the "Lake" and its accompanying details will doubtless be retained for the latter exhibition, the launch show will be on different lines, the entire floor space being devoted to launches and engines, and the balcony to fittings and marine appliances.

The change, which will commend itself to all patrons of the show, is in line with the experience in the various automobile shows; and far more in keeping than the arrangement of the present year with the dignity and importance of the launch industry. The lessening of the time from two weeks to one will be welcomed by exhibitors, who stand the expense, as well as by the attendants, who do the work for a long

twelve hours each day. The exclusion of a certain class of attractions which require to be advertised by the megaphone, and the raising of the technical standard of the boat and engine exhibit will act together to promote the attendance of the most desirable class of visitors and to afford better facilities for legitimate business.

There is no reason to fear that with ordinary business management and the exhibit which the launch industry is capable of today the show will fail to attract a very large attendance of yachtsmen; but even if the gate receipts should fall below the high figures of the present year, there will doubtless be a marked gain in the business done by the exhibitors.

A Ruling of Trade Import.

WASHINGTON, D. C., March 12.—Confirming a telegram to the Collector of Customs at New York relative to the entry of certain automobiles owned by Vincenzo Lancia and Louis Marks, the Secretary of the Treasury has informed the collector that the ruling may be considered general. It is to the effect that automobiles entered for touring purposes under the provisions of the Department's circular of March 18, 1905, and thereafter exported may not be reimported, either under the bond given upon the original importation, or a new bond at any time within one year.

SHOW FOR WHICH NEW ENGLANDERS WAITED.

BOSTON, March 12.—It is safe to say that no such throngs of first-nighters have been seen at any automobile show in America this season outside of New York and Chicago, as those which surged into the great halls of the Mechanics Building on Huntington avenue, when the dealers of this city opened their show Saturday night.

Such crowds at the outset could portend nothing less than unbounded interest and enthusiasm concerning motors and motorism, and they presaged a success for the show which has been amply fulfilled by the continued interest and the great local business developed at the various booths. But, after all, this great demonstration was no surprise; it had been forecasted and expected by all concerned; and, when it actually resulted, everybody was prepared to make the most of it. Boston has had successful automobile shows before. It knows how.

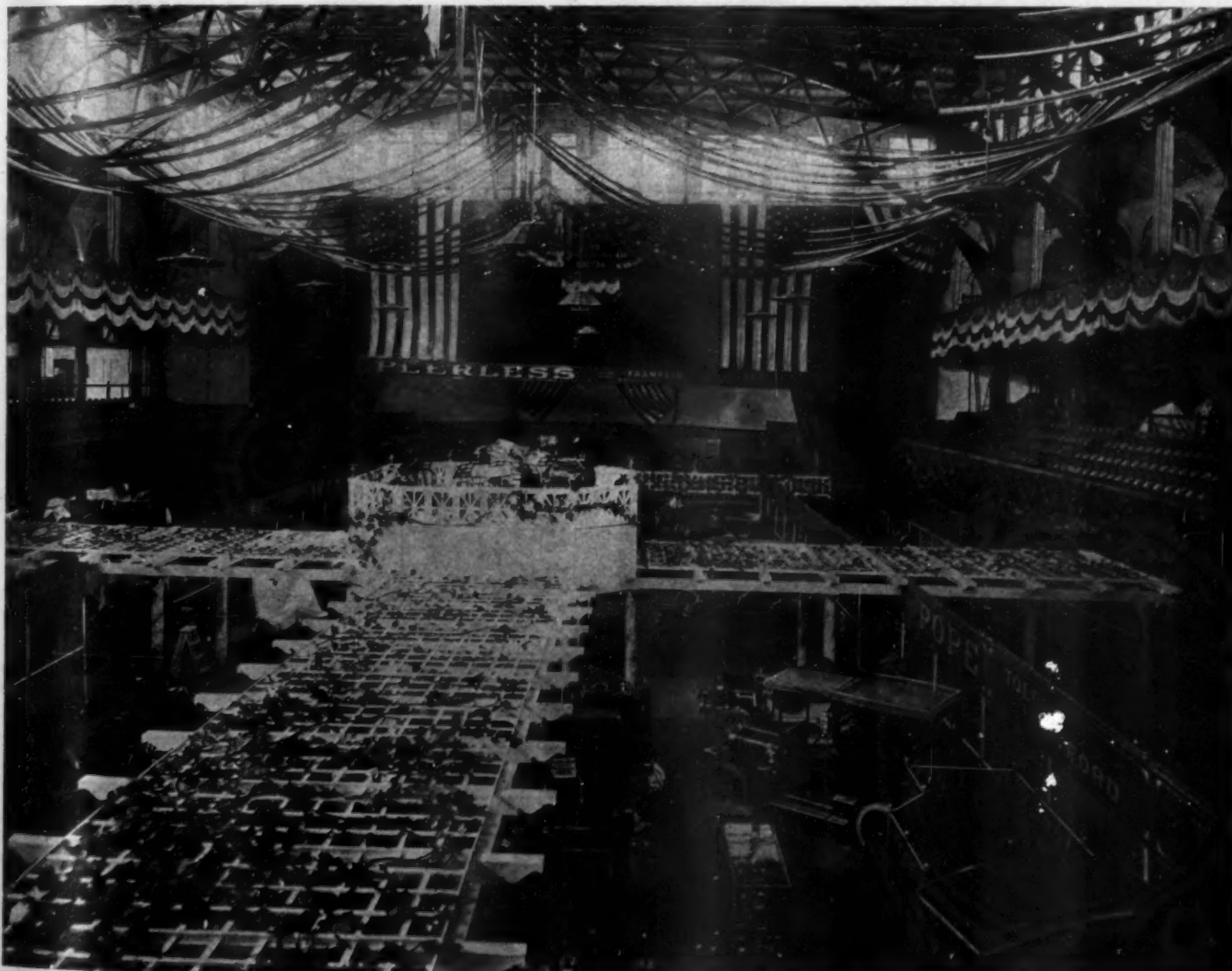
Still, the amazing popular interest in this

present show was a matter for congratulation to all those specially concerned in preparation of the vast exhibition. It demonstrated as nothing else could have done the indisputable fact that in Boston and New England, at least, the wonderful tide of popular interest in automobiles is even yet only beginning to rise in its true proportions, and that the ebb, often prophesied as likely to occur "in a year or two," is still a matter of the distant future, if, in fact, it ever really takes place. To be sure, Saturday night was the night when free tickets were due to come in by hundreds, and they came in. Hardly one out of the entire number distributed could have been wasted. But people of all classes, high and low, poured through the gates from the very outset in unending lines. No sooner were the doors opened at 7 o'clock than the rush began; and as the visitors spread themselves through the various aisles and passageways between the thickly-grouped ex-

hibits, it seemed no time at all before the two great halls were so choked with the eager sightseers that merely moving about was a difficult matter, and, as usual on first nights at the big shows, such a matter as the careful examination of the cars was wholly out of the question.

It was a brilliant scene that lay open to these first-nighters. As in the three previous shows of the Boston Automobile Dealers' Association, great attention had been paid to the grouping of exhibits and the color scheme for decorations; and there was a pleasing absence of anything garish or obtrusive. In spite of the fact that there were upward of 350 separate exhibits in the two great halls, no one was allowed to set up any sign or decoration that would in any way interfere with the general scheme, and the effect was therefore that of one harmonious whole.

Entering the triangular building from the door at the apex, nearest Copley Square,



VIEW OF INTERIOR OF MECHANICS BUILDING DURING AUTOMOBILE SHOW THIS WEEK, SHOWING NOVEL SCHEME OF DECORATION.



EXHIBIT OF ENGLISH AND AMERICAN NAPIER CARS AT THE BOSTON SHOW.

the visitors found an innovation along the wall of the main entry or corridor in the shape of great wooden signboards bearing mammoth diagrams of both halls, with a numbered key to designate the exhibitor holding each space.

Passing thence into what is known as Exhibition Hall, one saw reaching out before him what appeared to be a shaded arbor in some Italian garden, the white-and-gold wooden lattice covered with grape-vine decorations and colored electric bulbs to mark the main aisle through the hall in a manner that was both novel and delightful, harmonizing very pleasingly with the grass mattings that covered the floor and the deep garnet of the burlap on the walls, and forming an agreeable sylvan relief to the purely mechanical items that were of necessity the main features of the display. All the main floor space of this hall was given to the exhibition of autos, while in the galleries and the smaller hall above were more cars and all sorts of accessories.

But the grape-arbor, as it might be called,



ATTRACTIVE SETTING OF WHITE STEAM MACHINES IN THE MAIN HALL.

led directly through this display—which, in itself, would constitute a very respectable

automobile show for most American cities—to the doorways that gave access through the fire partitions to what is known as the Main Hall, at the up-town end of the building. Here the hall and its associations both served as an incentive for the most elaborate display, and while the decorations were, in general plan and design, of the same nature as those in Exhibition Hall, there was evident a considerably greater degree of care in arrangement and embellishment of the exhibits.

In the Main Hall the Venetian arbor covered the two main aisles, crossing each other in the center at right angles. At the point of intersection, a kind of pagoda or villa had been erected, so that it served at once as a central feature in the scheme of decoration and also as a band stand. The colors in this hall were dull green and garnet, and the signs all in gilt letters. The roof and rafters were hidden by thick fes-



BERKSHIRE AUTOMOBILES EXHIBITED IN MECHANICS BUILDING.

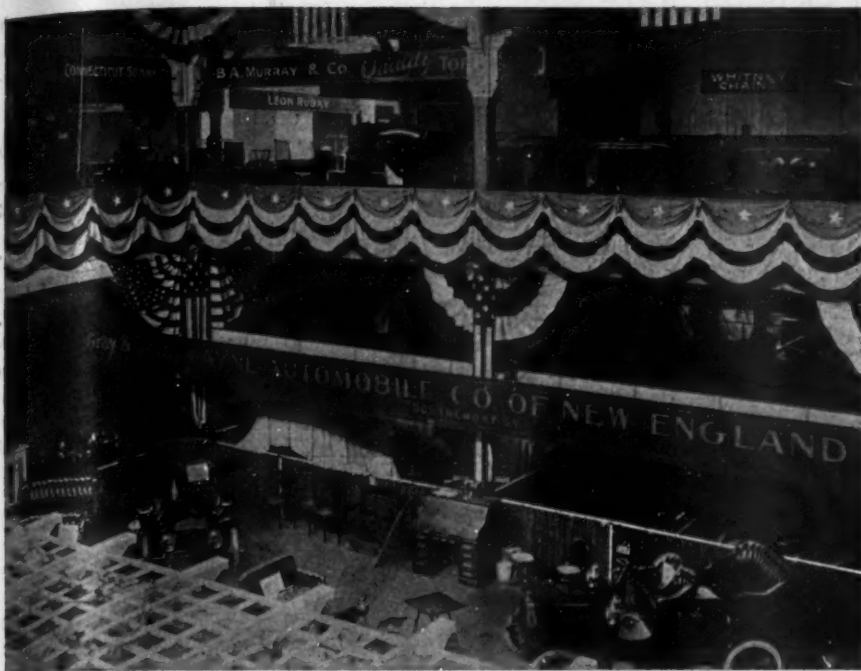
toons of tri-color bunting. One thing was apparent at first glance to any visitor who has been at Boston shows in former years. This was that, in spite of the careful arrangement, the Main Hall exhibits were crowded together more closely than had ever been necessary before. Even last year, when the show first moved down to the Mechanics Building from the smaller Symphony Hall, farther up the avenue, there was plenty of room in the Main Hall, and visitors could move about easily. But the tremendous demand for exhibition space this year had the effect of jamming the exhibits closer and closer, until the conditions in this largest building in Boston were about as uncomfortable as they were at the time of the second show, in Symphony Hall.

More than this, the first balconies of the Main Hall had been stripped of the upper tiers of seats, and the space thus gained had been taken entirely by cars and accessories, or various exhibits of special interest to the automobile public. Very few were of ex-

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A CORNER OF THE MAIN HALL SHOWING SUNDRIES EXHIBITS IN THE GALLERIES.

traneous interest, about the most radical departure being the purely sporting exhibit of hides and skins, in the upper entry, which at first glance seemed rather intended for a sportsman's show than an automobile show, but in reality came pretty close to the automobilist on the score of clothing.

Whether the first-night crowds were any greater on account of the fact that the second division of this year's show, occupying the entire floor space of Symphony Hall, could not open until Monday night on account of a Saturday night concert, is hard to say. But it is safe to insist that if they expected to be obliged to wait for the Symphony Hall opening in order to see the power boats, they were agreeably disappointed. There were power boats enough in the basements of the two halls in Mechanics Building to prove beyond all cavil that the use of motors on the water, though a little behind its corresponding popularity on land, is bound to be almost as much the vogue.

New England, with its myriad lakes and streams and splendid sea-coast boating grounds, offers as great attractions to the water motorist as the magnificent New England roads offer to the drivers of motor cars; and this year's show marked the awakening of builders of motor boats to this fact.

Local builders were strongly in evidence, and their displays included practically everything in the range of power boats from a handsome 50-foot steam yacht or barge, designed for hunting and shooting trips, down through the various fascinating types of speed-makers to the tiny motor-skiffs or tenders, for use in still water on small streams and ponds. It was truly a splendid display. It was not a mere grouping of a few exhibits in a small sec-

tion of floor space; it was an area equal to practically the whole floor space of Exhibition Hall, literally crowded full of motor boats of all sorts, sizes and speeds—a display completely adequate to give the inquiring novice a good idea of the wide range of choice open to him in picking out a craft to suit his own whim or need, whatever its nature.

Although the main features of the Mechanics Building show were ready by the middle of last week, there were many of the individual exhibits that were not ready until the very moment of opening the doors to the first visitors. Mechanics and artisans

were stringing lamps, or placing cars and machinery, particularly in the power boat department, late on Saturday afternoon, and it might fairly be said that the last traces of construction work were being swept out of the back doors as the first eager ticket-holders were admitted at the front. But, considering the size of the show, this is not remarkable.

It is figured that the total number of cars displayed was 763, ranging in price from \$400 to \$12,000. Of these more than 740 were cars of American make, so that the proportion of foreign cars is considerably less than in the case of the New York show.

The number of Mechanics Building exhibitors was about 360.

Of power boats there were about sixty.

In general character, the cars shown typify the very highest work of American and foreign builders; but the general display cannot be differentiated from the big shows of January in New York. It marked the same tendencies and characteristics, for, as a matter of fact, it included not only practically all the cars shown at New York, but also in many instances virtually the same individual exhibits. Chassis, displaying the working parts of a car to the best advantage, are everywhere, and the show has all the ear-marks of the prosperity which has now become so well recognized as attaching to the major part of the automobile trade in Boston.

Symphony Hall on Monday Night.

When the doors of Symphony Hall, Boston's temple of music, and the scene of the first local automobile show that was worthy of the name, were thrown open to the public Monday evening the show was in full swing. It had been impossible to get Symphony Hall ready for the opening on Sat-



A CHASSIS, TOURING CAR AND LIMOUSINE COMPRISE THE ROYAL TOURIST DISPLAY

urday evening, because on that date it was being used by the Boston Symphony Orchestra, that aggregation of musicians known all over the country as a leader of its kind.

But as soon as the musicians had completed their program and the ladies and gentlemen in their evening clothes left the hall, a small army of workmen, led by Manager C. I. Campbell, was ready to enter, and in the very short time remaining of the work day they made a great change in the appearance of the hall. The seats were taken out and the sloping floor removed. Then the work of the decorators began. But when Sunday came they had to desist, and they left things just where it was impossible for the exhibitors to place their cars, or even to get them into the building. Therefore, it was not until well along Monday forenoon when it first became possible to put any machines into the hall. Then there was a great hustle.

The decorations of the Symphony Hall show are on very much the same scheme as in Mechanics Building. Grass-green mats are used on the show spaces and the signs are of the same red and gold, while the hangings between the spaces are of green. Along the front of the balcony pink apple blossoms are festooned. Above the stage is a great cluster of the flags of all nations, which makes a very effective center piece for the decorative scheme.

The Sturtevant Automatic Car.

A car that is attracting much attention is the Sturtevant, designed as the "automatic motor car," the claims for it being that it lubricates itself, operates its clutches, changes its gears "exactly as road resistances require," regulates its mixture and spark; and its motor, like all other engines, operates its valves and governs itself. This car, also, actuates its own brake. "The driver has only to steer," is the concluding description of its talking points.

The Shawmut Touring Car.

The very latest newcomer in the trade is the Shawmut, a \$3,500 touring car of 35 to 40 horsepower and weighing 2,400 pounds. Symphony Hall captured the exhibit, which was at all times during show hours a strong center of attraction as the car is of local manufacture, being built by the Shawmut Motor Co., 901 Boylston street, Boston. The company is headed by Elliot C. Lee, lately president of the American Automobile Association. One model of the car is shown together with a display of rough and finished parts. Its appearance is one of solidity and strength united with a fine regard for style and finish. The power plant is almost a replica of the Panhard type, with some modifications. The crankshaft has the five ball bearing supports. The extra bearings are placed immediately between the bases of the cylinders in both the front and rear sections of the crankcase. Four ball bearings also support the camshaft.

All ball bearings are of French manufacture—Malicet & Blin—and their liberal use in every part of the car is with the object of reducing resistance to a minimum, so that the percentage of power delivered by the motor to the rear wheels will be exceptionally high. The transmission is of the straight sliding type, with reverse effected by a single gear and cam.

The motor is four-cylinder, vertical, of 4 1-4-inch bore by 5 1-2-inch stroke, with inlet and exhaust on opposite sides. The flywheel, which is 22 inches in diameter, has specially designed blades and makes a very effective fan. Make-and-break ignition is furnished unless otherwise ordered. All gears are planed from hammer forged nickel steel and toughened by a special annealing process.

Model 6, the car shown, has a wheelbase of 112 inches and 56-inch tread. The body is finished in dark blue and has double side entrance with divided front seat. All metal trimmings are of non-corrosive nickel steel.

Novelties and Sundries.

Three new flexible shaft specialties are shown by the Coates Clipper Mfg. Co., of Worcester, Mass. The first is an auto buffing equipment which consists of a flexible shaft, buff and holder and sheave pulley. By a simple rigging of the pulley to the floor and connecting same by belt to the flywheel of the motor, the power of the automobile can be used to revolve the buff by means of the flexible shaft. All bright parts of the car can be reached readily and the work of polishing can be performed with rapidity.

The second novelty to be mentioned in this exhibit is a flexible portable arm, which consists of a small engine outfit for rowboats. This is supplied with a flexible propeller shaft carried up and over the stern of the boat, and from that point to the propeller itself through a rigid curved tube which is attached by a clamp to the stern of the boat. The outfit can be applied to any shape of hull.

A new lightweight breast drill equipped with flexible shaft completes the Coates Clipper trio. It is built in two sizes, weighs two pounds and can be stopped and started at will without stopping the motor to which it is attached by the flexible shaft, which it is attached by a flexible shaft. All described articles is of the Coates unit-link type.

The Eco Manufacturing Company, 53 State street, Boston, shows a new acetylene gas generator which not only makes the gas, but also stores it under pressure. It is called the Eco-Safety. The makers emphasize the storage feature of their product as one of great economy for users, as the efficiency of the present storage tank is combined with the convenience of making your own gas. A pressure regulator between the generator and the lamps and a

device for drying and filtering the gas, is designed to increase the efficiency and candle power of the light. The outfit is enclosed in a neat box so that it can be attached to the running board of the car.

A new meter for registering speed and distance made its initial appearance at the Boston show. It is called the Federal, and is manufactured and marketed by the Chandler & Farquhar Company, 36 Federal street, Boston. The meter has a clear, open face, and is easily adjustable to any car; shows the speed from five to sixty miles an hour, and registers both trip and season mileage. It is cup-shape in form, handsomely finished, and is sold with all attachments, ready for use on any style of car.

Business Is Brisk and Big.

Business began with a rush at Mechanics Building Monday morning. The Saturday night crowd was one made up almost entirely of people who were glad of a free ticket to go to the automobile show. The automobilists and those who expect to be automobilists and who had any inkling of the opening night crowd stayed away. Therein they were wise. But by Monday morning the character of the attendance had changed altogether. It was a crowd of buyers, and of persons purchasing for their own use. It was not an attendance of agents, for most of the New England agencies have been placed for this season, but it was a crowd of people who took advantage of the morning hours to make their final examination of the cars before placing their order.

Boston's New Trade Affiliations.

The new machines in the Boston market which are being handled by old members of the trade have the advantage of those which are in charge of new men. Thus Harry Fosdick and J. A. Dowling, with the Fiat and the Studebaker; A. E. Morrison, of the Morrison-Tyler Motor Company, with the Rainier, the Maxwell and the Marion; George H. Lowe, with the Wayne, and S. H. Baker, of the Baker-Cormerais company, with the Premier, have a great advantage over less well-known men in putting out new machines.

The many changes that have taken place in the local trade in the past year are made very conspicuous at the show. Thus J. L. Snow, formerly head salesman of the Peerless, is now manager. The same is true of Freeman Hinckley, of the Pope company, and J. A. Hathaway, of the White. Notwithstanding the many changes, there are plenty of the old standbys, such as A. R. Bangs, of the Franklin and Darracq, J. W. Maguire, of the Pierce, A. P. Underhill and George G. Reed, of the Knox and Stearns, C. S. Henshaw, of the Thomas, E. A. Gilmore, of the Rambler, A. T. Fuller, of the Packard and Cadillac, J. M. Linscott, of the National and Reo, and J. H. MacAlman, of the Locomobile.

Buffalo Urges Her Claims to Open-air Show.

BUFFALO, March 12.—It has not yet been definitely decided that Buffalo will get the first annual out-door show of the American Motor Car Manufacturers' Association, to be held this coming fall, but local enthusiasts are cheerful over the way in which R. B. McMullen, of Chicago, general manager of the association, spoke of Buffalo's facilities for such an exhibition, and there is a general impression that the Queen City will secure the show. Mr. McMullen spent several days in Buffalo last week attending the automobile exhibition at Convention Hall and looking into the advantages Buffalo offers for the open-air show. Several other members of the association were also here.

Mr. McMullen praised the local show, and when asked about the probability of Buffalo getting the open-air exhibition, said that he intended to look the field over thoroughly before leaving. He had been out to Kenilworth racetrack and had looked over that site. He was favorably impressed, he said with the advantages the park offered. Mr. McMullen asked if there were any hills in that vicinity for climbing tests, and he was assured that there were.

Wednesday morning a committee of aldermen, composed of John J. Kennedy, George J. Haffa and John Collins, met the committee from the manufacturers' association at the Iroquois Hotel and urged the selection of Buffalo as the place of holding the first outdoor exhibition. The visiting automobile men said they would seriously consider this city's chances.

SUCCESS OF BUFFALO SHOW.

More than 50,000 Attendants, Many Sales and Everybody Pleased.

BUFFALO, March 12.—The closing "honk-bonk" of Buffalo's fourth automobile show was sounded promptly at 10.30 o'clock Saturday night, much to the regret of the large crowd which filled Convention Hall and the many exhibitors who had made a "good thing" of the show. The final honk-fest was the signal for the exhibitors to prepare to move on to the next stand—Boston.

Immediately the exhibition cars, chassis and other exhibit features were prepared for shipment and then carted by truck to the railroad yards. Probably the biggest automobile train that ever traveled on a railroad left Buffalo early this morning for Boston. There were thirteen express cars; making up a special train, with each car filled to its capacity with show automobiles and appurtenances.

The men who were responsible for the show are highly elated by its success. Manager Dai H. Lewis said that more business was done at the show this year than at any of the three preceding shows held here.

"They all did business," said Mr. Lewis,

"the sundries dealers, motorcycle makers, the manufacturers of the big cars and everybody that had an exhibit. As for attendance, we had more people here this year than at any other show. The total attendance, exclusive of the exhibitors and the attendants at the exhibits, has been far more than 50,000. That's a good record, and indicates what will be done if the big autumn outdoor show is held here. Everybody is thoroughly satisfied."

There was nothing pertaining to a motor car which was not exhibited at Buffalo's show, and the range of cars was wider than ever before. The commercial vehicles occupied a prominent place and the number of business wagons exhibited indicates that there is to be a more determined effort this year than ever to substitute gasoline and electricity for horse flesh in the delivery of goods.

That the electric automobile has many adherents was demonstrated by the large crowd always surrounding the exhibit of the Babcock company.

"Sold" cards were plentifully displayed on the cars at the show. One man, new in the business, claimed he had placed special orders for seventy-two cars. One motorcycle exhibitor took orders for eighteen machines.

A show for Buffalo next year seems assured, but before the time arrives, those in charge hope to have a better and bigger place in which to hold it.

How to Discourage Speed.

CHATHAM, N. J., March 12.—This borough, known in automobilizing circles as harboring the most drastic anti-automobilizing sentiments of any place in the state, has awakened from the lethargic sleep in which it has lain for several months past and has taken up the cudgel against motorists once more.

Tired of warning and arresting car owners who, the officials declare, pass through the pretty Morris county towns faster than the law allows, the common council, at a meeting, has decided on a new method of warfare. Their scheme is to make automobilizing over the borough's streets so unpleasant, even dangerous, that motorists will give Chatham a wide berth.

It is proposed to re-lay the crosswalks on the prominent streets, leaving them exposed five inches above the level. The stones have already been ordered, and the work will be begun at once. Whether the approach of the crosswalks will be up a low embankment or whether they will stand up sheer in the roadway has not been decided. One or two walks with both kinds of approaches will be laid before that point is determined.

It was the intention of the councilmen to make the height three inches instead of

five, but a statement made by Frederick R. Pratt, president of the Associated Automobile Clubs of New Jersey, to the effect that a two-inch rise would occasion automobilists no annoyance, and that even an obstruction three inches high would not do the damage to cars expected, decided the body in favor of the extreme height.

Horsemen and owners of carriages were evidently not taken into consideration, although it was said before the meeting of the councilmen that such an ordinance would make ten times the trouble for drivers of horse-drawn vehicles, with their iron or hard rubber tires, than it would cause automobilists. It was the opinion of some that a heavily loaded wagon could not be driven over an obstruction so high.

The marshals of the borough are said to be opposed to the ordinance because it will take away a large part of their income by compelling automobilists to go slowly or to keep out of the place altogether.

Just why there is so much opposition to automobiles in Chatham is hard to say. The town has 1,800 inhabitants, and many of the residents and property owners are New York or Newark business men. The place is looked upon as an aristocratic suburb of Greater New York.

PHILADELPHIA STAGE LINES.

Two Companies Organized to Operate to Chester and Atlantic City.

PHILADELPHIA, March 12.—Last year's experiment of operating a tri-weekly auto-coach service between this city and Atlantic City, which was made by a local promoter, was so successful that the coming season will see a regular line established, not only for the transportation of passengers, but for freight, mail and express packages as well. Articles of incorporation for such a line to operate between Camden and Atlantic City, under the name of the Camden and Atlantic Automobile Company, were filed in the former city last Wednesday. The authorized capital is \$25,000, and the incorporators are I. Dare Cindhart, Jr., Charles Sumner Wesley and M. Leon Berry.

Another line, for passengers only, is projected between Philadelphia and Chester, over Woodland avenue and the Chester Pike, the charter notice of the Philadelphia and Chester Coach Company having appeared last Wednesday. Application for a charter will be made on Monday, April 2, the incorporators being J. Frank Black, George C. Hetzel and George W. Atherholt.

Neither of these lines will tap virgin territory, both being paralleled by steam roads, the latter having also two trolley lines to compete against.

The British Motor Union proposes to hold special headlight trials to see whether it is not possible to do away with the glare constantly complained of by the general public. The Union has placed itself in communication with the makers.

The Value of Trees on Highways.

In his message to the New York state legislature, Gov. Higgins recommended that shade trees be planted along the improved highways, and that the expense thereof be included in the contract for the improvement of the road. The governor spent a part of last summer in Europe, and undoubtedly in France was impressed with the careful construction and maintenance of the highways and the frugality of the French people in that they planted shade trees along the road, not for the one purpose only of beauty to the traveling stranger, but for the purpose of holding moisture in order to keep the stone roads from raveling, as they do when they are dry and the little stones roll apart from one another.

This raveling is prevented if the road is sprinkled, but the thrifty Frenchman has learned that it is cheaper to plant trees and hold the moisture in the air around the road in a natural method, rather than to pay taxes to have a man run a sprinkling cart.

The thrifty Frenchman has also learned that on his 25,000 miles of main road, which are built and maintained by the nation, he is in reality maintaining a forest from which he is able to cut a certain number of trees each year, which he sells, and thus obtains a revenue toward road maintenance. In place of the trees that he cuts he puts out new ones and there is a constant succession of new trees being planted and old trees being cut.

The serious question in New York state of the loss of timber from the watersheds makes it highly advisable that wherever practicable trees should be planted along all stone roads to protect them from raveling. Trees are not planted along gravel roads, as it would make them too muddy, but when planted along stone roads they are very valuable toward maintaining them economically.

A TOLL ROAD IN THIS DAY.

PITTSBURG, March 12.—The Wilkesburg Boulevard Company has applied for a Pennsylvania charter and proposes to build a 40 per cent. grade road between Wilkesburg and Braddock, and later to extend it to East Pittsburg. E. R. Reno, J. F. Kinkade and F. W. Schornagle are the incorporators, and Senator John S. Weller is pushing the project. This road is the beginning of what promises to be better roads in western Pennsylvania, especially at those points where country roads have not been laid out and improved at the expense of Alleghany county.

The proposed boulevard will be fifty feet wide, and it is said that little trouble is being experienced in getting the rights of way. The road will be in the nature of a turnpike, and small fees will be charged automobiles and other vehicles, thus giving the company a fair revenue. The East

Pittsburg Improvement Company has secured much of the land along the proposed road and proposes to establish thereon a colony of automobile owners. The new grade of the road and its direct connections with the city make their project very feasible.

Buffalo Club Wants Trunk Roads.

BUFFALO, March 12.—The Automobile Club of Buffalo has adopted a strong set of resolutions relating to the good roads improvement work. Copies have been sent to Erie county's legislators. The resolutions are as follows:

Whereas, The people of this State have authorized the legislature to promote good road building by employing the credit of the State for that purpose to the extent of \$50,000,000 at a time, and without limit to the amount that ultimately may be spent in carrying out that policy; and

Whereas, There is a movement in some of the counties of the State in favor of dividing among the counties the first \$50,000,000 raised by the State for good roads, to be expended on such highways, and in such fashion as local officials shall direct, and bills to that effect are pending in the Legislature; it is therefore

Resolved, That this club, representing owners and operators of nearly 3,000 automobiles, is strongly in favor of having a good roads policy carried out by State officials with a view to the highest benefit of the State as a whole, under legislative act for that express purpose.

That it is opposed to the policy of dividing the State fund among the counties on the basis of mileage, population, valuation, or any other scheme of getting at the money to spend it as local authorities may see fit.

That a comprehensive plan of trunk lines running east and west should be laid down by the State Engineering Department and another plan of trunk lines running north and south should be adopted in connection with the main line east and west, and that lateral lines should be constructed only in connection with main lines to the end that, finally, all lines shall be parts of a sound system that may be developed to any degree, but always in harmony with the general plan.

That a rational plan of highway improvement is impossible if the State fund is permitted to be handled by local officials, along with the mixture of politics and pull that such operations always attract, and with only selfish local interests in mind.

That the Legislature should enact a statute retaining the many admirable features now included in the law, but laying down a broad policy to govern in the great amount of new work to follow the appropriation of large sums of money under the recent amendment to the Constitution.

That such statute should put good roads improvement under the control of the State Engineering Department as far as the State contribute money to that end in any county.

Indiana Good Roads Proselyting.

INDIANAPOLIS, IND., March 12.—Within a few weeks a good roads movement, that it is expected will spread throughout the entire state, will be taken up in Indiana. Frank Staley, vice-president of the H. T. Hearsey Vehicle Company, is back of the

movement. It is not likely that the plan will take the form of an organization, but that a few of the best-known motor car enthusiasts of Indiana will take up the work by individual efforts. The plan will be for this self-appointed committee men of much influence, to visit the county commissioners throughout the state and urge that the roads be improved.

In brief, the committee will do missionary work where it is needed. One of the principal features of its work will be to visit the farmers along the different proposed routes and impress upon them the importance of good roads, not only for motor car drivers, but for the farmers as well.

The first route to be taken up will be a new route from Indianapolis to Chicago that has just been "discovered" by Mr. Staley during a tour in his White steamer. The new route will make it possible for drivers of this city to make the trip in one day, and it runs through Frankfort, Lafayette, Remington, Valparaiso and Hammond.

Good Roads Doings.

Rhode Island has been particularly energetic during the past four years in the improvement of its highways. At the present time the state possesses, or has in process of construction, 170 miles of macadam highway, which within the next two years will be increased to 249 miles. The work on the roads has met with general approval, and at the last general election a large appropriation was voted for the continuance of the work.

* * *

The third annual convention of the New York and Chicago Road Association will take place at Hornellsville, N. Y., March 20 and 21. The Southern Tier Good Roads Association will be represented, and both the city council and chamber of commerce of Hornellsville will assist in making the convention a notable one. Prominent speakers and good roads advocates have been invited to attend.

* * *

In the discussion of the merits of the Brownlow-Latimer good roads bills before congress the very first fact to be considered is that good roads are the greatest factors of profit, comfort and convenience ever sent to bless the people of any land, and that they contribute abundantly to enhance the national life and to offset the influences that tend to concentrate population unduly in the large cities to the discomfort and detriment of the community at large. Another primary fact is that where financial ability and intelligent zeal have striven to solve the road question the aggregate value of property has been so greatly increased by good roads that it is impossible to overestimate it.



A GOOD SAMPLE NEAR MORRISTOWN OF THE NEW JERSEY ROADS WHICH ARE THE JOY OF THE AUTOMOBILIST.

The Battle of Trenton Undecided.

TRENTON, N. J., March 12.—The Committee on Judiciary's substitute to the Frelinghuysen Bill to-night passed the Senate on a second reading and will now go to the House. Predictions are made that the measure may become a law in spite of its drastic regulations, though the automobilists, under the direction of the Associated Automobile Clubs of New Jersey, will make a most vigorous protest in the Senate.

A clause which might have interfered with the effectiveness of the bill was discovered and amended by Senator Frelinghuysen. The committee substitute contains these important provisions:

(1) No chain tires to be used on the roads of New Jersey unless the road which is traveled is covered with one inch or more of snow or ice.

(2) Automobiles must carry devices to prevent excessive noise; also device to prevent the falling of embers or waste from fuel used in machine.

(3) Provides for organization of Commission of Registration and Regulation, to have not more than twenty-one commissioners throughout the state, each having power to arrest without warrant, also having power to stop machines and discover if driver has complied with sections of this act.

(4) No person shall operate a machine who has not first been examined by a commissioner in a trial trip in kind of machine to be used.

The Frelinghuysen bill provided a speed of one mile in seven minutes, and this was changed to one mile in five minutes.

Machines of less than 30 horsepower are to be taxed \$3 a year; of more than 30 horsepower, \$5 a year. Summons on non-resident automobilists may be served on the Secretary of State, and for this a fee of

\$2 per year must be paid. Motor cycles are to be taxed \$1 per year.

Manufacturers' licenses, good for five machines, are to be issued for \$20. All present licenses are to expire July 1 next.

Are the Railroads Responsible?

TRENTON, N. J., March 13.—"Good-morning, Senator, will you introduce an automobile bill to-day?"

"Not to-day. You know I introduced two yesterday, and have another for to-morrow."

"That's good. My third bill comes up for second reading this afternoon, and I hope you'll help it along all you can."

"Sure. And I'll expect you to vote for my amendment to Jones' bill, compelling payment of all automobile fines in cash."

"I certainly will."

And the two Jersey lawmakers part for the nonce, each with the proud consciousness that he is conserving the interests of his agricultural constituents. And all the time these Solons and their confrères are playing the game of the railroads—keeping the farmers occupied with the automobilists while the greater question of a fair taxation of railroad property in the state is allowed to play second fiddle. There is some reason for the assertion that the railroads are responsible in a measure for the multiplicity of bills having for their object the 'keeping of the automobilist within bounds.

Somebody has told the farmer that he builds the roads and that the automobilist—who is almost always a city man—tears them to pieces. When the myriad of bills are boiled down, toward the end of the session, into one measure containing the best—or worst—points of all, it will be demonstrated by those who are fighting

these bills that neither statement is correct—that the worst damage is done by the narrow-tired wheels of the farmer's wagon; that the proportion of taxes paid by the city and town resident for road construction and maintenance is as 4 is to 1 compared with the farmer; that the farmer is not charged for the use of the streets when he brings his produce to the city market; that city resident pays for street improvement in front of his home, whereas the state and county build and repair roads on which the farmer's lands abut.

Automobilists generally are willing to submit to reasonable regulations to keep the road incinerator within bounds; but the numerous nonsensical propositions, such as that which proposes toll gates ten miles apart, with telephone connection to keep tabs on the rate of speed, and a charge of ten cents per passenger, must be eliminated.

Meanwhile the railroad lobby is looking forward to adjournment day and ramming in a new bill now and then to keep the farmers' minds occupied.

In Progressive Vermont?

MIDDLEBURY, Vt., March 12.—At the town meeting of March 6 the town voted, after considerable discussion, to prohibit the running of automobiles upon the main highway between what is known as the Isaac Rogers corner and the Middlebury-Ripton town line.

As passed the resolution authorized the selectmen to post the road in question, which covers a distance of about seven miles and is about half of the distance between Middlebury village and the Bread Loaf Inn in Ripton.

The British Motor Volunteer Corps is being reorganized to give it a stronger military standing.

The District of Columbia Bill.

WASHINGTON, D. C., March 12.—Congress is determined to force the Sims Bill regulating the speed of automobiles in the District of Columbia, and for other purposes, upon the automobilists of this city, notwithstanding the adverse report on the bill made by the district commissioners. The House Committee on the District of Columbia have considered the bill in all its phases, and have reported it to the House with a few slight modifications and the recommendation that it be passed. The speed limitations provided in the bill as reported are the same as the existing police regulations with one exception, the committee deeming it wise to reduce the speed of automobiles in crossing streets where there are no steam or street railway tracks to eight miles an hour instead of the existing regulation of twelve miles, this constituting the only change in the present regulations. Upon the recommendation of the district commissioners the provisions of the bill are made applicable to horse-drawn vehicles. In its report the committee says the necessity of regulating the use of public thoroughfares of the city by law is recognized.

Among other things the committee's report says: "Your committee is of the opinion that the punishment of offenders by fine is not sufficient to break up the practice of operating automobiles in excess of the speed limit provided by the regulations in force, and that imprisonment, at the discretion of the court, for the second and third offense is absolutely necessary in order to effectually check the tendency to overspeeding. Your committee believes that the limitations of speed provided in the proposed legislation are reasonable and necessary, and that the punishments therein provided, while not harsh or excessive, will be sufficient to break up the practice of overspeeding of all kinds of vehicles in the District of Columbia, and that the same will be easy of enforcement."

The penalty for the first offense is a fine of not less than \$5 nor more than \$50; second offense within one year from the first offense, a fine of not less than \$10 nor more than \$100, or imprisonment for not less than five days nor more than thirty days, at the discretion of the court; for the third offense within one year from the first, a fine of not less than \$50 nor more than \$250, or, at the discretion of the court, imprisonment in the workhouse for not less than thirty days nor more than six months.

The bill now goes to the House calendar, and the chances are that it will be speedily enacted into law. The Automobile Club of Washington is seeking to enlist the aid and influence of certain senators and representatives who are automobilists to defeat the measure. It is an uphill fight, and the

chances are all against the automobilists winning out.

Sims Bill Passes Without Dissent.

WASHINGTON, D. C., March 13.—To-day the House of Representatives passed the Sims automobile bill unanimously, despite efforts of Representative Gillett to secure certain amendments. Representative Gillett thought the bill in many respects unreasonable, to which Representative Sims replied, "If there is anything the matter with this bill, it is that it is too lenient."

When the amendments had been voted down, the bill was passed without dissenting vote.

REGISTRATION IN OHIO.

Bill Reported Favorably by House Committee Likely to Pass.

COLUMBUS, O., March 10.—The House Committee on County Affairs of the Ohio legislature has reported in the bill of Representative Bowers requiring all owners of automobiles to register with the county auditor of their respective counties and to display identification tags. This seems to be the only measure of the kind destined to pass at this session. There are in the hands of the committee several other bills affecting automobiles, and the probabilities are they will die there.

In view of the favorable action of the committee it is very probable the bill will pass the House of Representatives. Whether or not it will go through the Senate is a question. The session is drawing to a close, and that body may not get to it before final adjournment.

The Bowers bill provides a fine of \$5 to \$50 for violation of its provisions.

Maryland has a Weird Bill.

BALTIMORE, MD., March 10.—Four bills concerning the automobile have already been introduced in the Maryland legislature this session, and the past week has seen another added to the list. Just why this latest legislation is desired has not yet been explained, because the bill has been temporarily suspended, pending revision on account of a clerical error, but, in brief, its object is to prevent the running of an automobile in Dorchester county on Tuesdays and Saturdays, except when its occupant is a physician hurrying to the bedside of a patient.

As a sample of freak legislation, this automobile bill was substituted in place of one which had been unfavorably reported by the judiciary committee of the house. It was not regarded in a very favorable light until J. W. Hastings, who introduced it, said that the county people were clamoring for it. This statement naturally had the effect of enlisting the support of many members of county delegations. However,

it is thought that it will meet with successful opposition when it comes up on the floor, if it gets that far.

The Situation at Albany.

ALBANY, N. Y., March 12.—Assemblyman Cox's bill to allow owners of motor vehicles who are arrested for violations of the automobile law in New York State to give as security for the appearance at trial the bond of some security company instead of cash or leaving their motor car as a bail bond has been passed by the Assembly.

The amended L'Hommedieu auto-tax bill is still in the Senate committee on taxation.

Senator Grady Monday night reintroduced his bill of last winter which declares that all persons have a right to be on the highways, and no person shall drive or ride at a rate of speed which may be dangerous to others. When the driver of an automobile refuses to decrease the rate of speed he is guilty of misdemeanor, according to the provisions of the Grady bill. Another provision makes a driver guilty of assault in the first degree if in case a person is injured he attempts to escape or neglects to stop to inquire as to the character and seriousness of the injury.

Can't Bar Motorcycles.

Despite its desire to do so, Reidsville, N. C., cannot keep motorcyclists off its streets, and the three motorcyclists who reside there are now free to brush the dust off their machines and use them without fear of fine or imprisonment. Reidsville passed a by-law prohibiting their use and for a time the by-law was respected, but backed by the Federation of American Motorcyclists, a member of that organization, David L. Carroll, has just succeeded in convincing the "city dads" of Reidsville that they have no right or power to pass laws of the sort.

Bingham Wants Autos.

Police Commissioner Bingham, of New York City, obtained, on Monday, the permission of the aldermanic finance committee to purchase three touring cars without advertising for bids. Commissioner Bingham declared it was necessary for the department to have the best American cars in the market in order that he and his deputies, leaving headquarters for a tour of inspection in Queens and Richmond boroughs, might be sure of getting back without delay. He added that for the present he intended to have the automobiles run by uniformed policemen, but that he would soon be back for another appropriation to provide funds to engage civilians.

At the next election the voters of St. Joseph township, Michigan, will vote on a proposition to bond the township for \$29,500 for the purpose of constructing new roads throughout the township.

The N. A. A. M. March Executive Meeting.

The Executive Committee of the National Association of Automobile Manufacturers held its regular monthly meeting March 7 at the association headquarters, No. 7 East Forty-second street, New York City. Herewith is the official report of the meeting, as given out by S. A. Miles, general manager, to N. A. A. M. members:

Your attention is respectfully called to the following resolutions adopted by the Executive Committee at its regular monthly meeting, March 7:

RESOLVED, That this association is opposed to the holding of contests in the United States which have not been approved by its Executive Committee, and that it shall not be permissible for any member to take part in any unapproved contest under penalty of being debarred from participation in such events as may be held with the approval or under the auspices of this association.

Members have, from time to time, complained that attempts are made in various parts of the country to promote contests and secure the support of manufacturers. In the opinion of the committee there is danger that these will increase in number to such an extent as to become a serious burden. It is not the intention of the committee to attempt to "sanction" contests in the same way as it has done local shows, but it appears to be necessary to make such recommendations as will insure uniformity of action.

RESOLVED, that in the opinion of this Executive Committee it is unnecessary and unbecoming the dignity of a member of this association to publicly offer a guarantee exceeding 60 days, or varying in any essential detail from the guarantee adopted by this association.

The committee has received complaints that the form of guarantee adopted by this association has not been strictly observed, and that not only has the time been extended in some cases to as much as one year, but that, in a few instances, guarantees have been given to keep a car running, under any and all circumstances, except accidents due to carelessness, for twelve months. The committee believes that the class of manufacturers composing the membership of this association is such that a sixty-day warranty should prove ample. It is the desire of the committee that members adopt and adhere as strictly as possible to the present form. The committee realizes that in some cases the form for 1906 has been published and can hardly be changed, but hopes that the use of any other form will be discontinued as promptly as possible.

WHEREAS, in the opinion of this Executive Committee, the local shows of 1906 have not been productive of benefits to the industry commensurate with the loss of time and expense involved; be it

RESOLVED, That no shows shall be sanctioned hereafter except one annual

show at New York and Chicago, and that the resolution relative to exhibits at unsanctioned shows be continued in force.

The resolution referred to provides that no manufacturer who exhibits at an unsanctioned show shall be permitted to exhibit at a sanctioned show for a period of eighteen months.

The association realized approximately \$25,000 from the Chicago show, one-half of which will be distributed among those who had exhibited at at least one earlier Chicago show, held under the auspices of this association in proportion to the amounts paid by each. The distribution will be made at an early date.

The association's test case, in New Jersey, designed to test the validity of laws which require an automobilist to take out more than one license and to determine other minor points has progressed so

rapidly that it has been heard in three courts and is now before the Supreme Court of New Jersey. It will reach the Court of Errors and Appeals in June, and it is therefore probable that within the brief space of six months we shall have been able to secure the decision of the highest court in the state.

W. E. Metzger has been elected a member of the executive committee in place of R. D. Chapin, resigned.

Following is a list of committees for the ensuing year:

Membership—Messrs. Davis, chairman; Owen, and Bennett.

Show—Messrs. Budlong, chairman; White, Hildebrand, Bennett, and Metzger.

Freight and Transportation—Messrs. White, chairman; Clifton, and Innis.

Auditing—Messrs. Owen, chairman; Goss, and Pope.

Good Roads—Messrs. Waldon, chairman; Davis, and Bennett.

Legislation and Legal—Messrs. Bennett, chairman; Innis, and Pope.

Contest—Messrs. Waldon, chairman; White, Kitzridge, Davis, and Pope.

Transcontinentalists Reach Santa Fe.

SANTA FÉ, N. M., March 7.—Our progress during the past week shows a marked improvement over former weeks, and if the roads continue good the wheels of the *Mountaineer* will be revolving over Colorado soil within the next two or three days with New Mexican adobe left behind forever.

In pulling out of Albuquerque we swung off from the railroad, and, with a Government survey map for a guide, headed directly across the prairie for Tijeres Canyon. The road surface was excellent most of the way. After passing through the canyon, the road led through the Mexican towns of San Antonio and San Antoneto, at both of which there were persons who knew enough English to direct us to the next settlement. Every time we reached an altitude of more than 6,500 feet we ran into the snow belt, and that usually meant mud.

The arroyos all through this section are deep, and would bring the car to an abrupt stop every time, were they not all bridged. Some of the bridges sagged and groaned under the unusual load, but nothing gave way and we made excellent progress.

As usual, we were handicapped to some extent by the fact that the standard tread in the East is not so wide as that used in the West. Everywhere west of Rock Island we have found the roads cut by wide gauge wagons, making it necessary for the Reo to make its own trail through the rough roadbed on one side, the wheels taking the wagon track on the other.

We had a rather thrilling experience coming over one range of mountains between Albuquerque and Santa Fé. While ascending a long, steep mountain pass with a

precipice of a hundred or more feet on one side and a rocky cliff rising to an equal height on the other, a small stone flew up and struck the sprocket in such a way as to snap the chain. Almost immediately the car started backward. Instinctively I put my foot on the brake, but as the chain was broken this had no effect. By the time I caught the emergency brake handle we were backing down the mountain much faster than we had come up. Standing on the emergency brake handle, steering backwards and looking over my shoulder at the trail was rather ticklish work, but I managed to stop the car before any damage had been done. To repair the chain was the work of only a few minutes, and we were soon climbing again, until finally the barometer read 9,025 feet.

At Golden, a little gold mining town, peopled with a bunch of New Yorkers—the gold mine is owned by New York capital—we found a very good hotel.

From Santa Fé we shall drive to Las Vegas, then through Colorado, Kansas, Missouri, Illinois, Indiana, Ohio, West Virginia, Pennsylvania to New York.

PERCY F. MEGARGEL.

In an interesting paper read before the London Society of Arts, Claude Johnson, the first secretary of the A. C. G. B. I., pointed out the fact that at the same time that Benz and Daimler were experimenting with internal combustion engines, 1885, an Englishman named Butler built and drove a gasoline engined bicycle. The authorities, however, forbade him, in their usual shortsightedness, to use his machine on the roads, and he therefore did not pursue his idea any further.

An Up-to-date Private Garage.

Private owners of automobiles have not yet provided garages for their cars that can compare with the magnificent stables built by owners of horses; but, nevertheless, a number of private garages have been built which are not only practical and convenient for actual use, but are well designed and



EXTERIOR OF THE CLEMSON GARAGE.

pleasing to the eye. The garage built for George H. Clemson, of Middletown, N. Y., is a good example of a private garage with plenty of space for the growth of the "string" of cars, convenience for handling, washing and working on the machines and having an ornamental exterior. The garage gives the impression of being circular, but is really polygonal; the roof is a cone with a cupola at the apex containing ventilators. Surmounting the whole is a weather vane appropriately formed to represent an automobile. Small windows in the roof add to the light admitted by the numerous large

windows in the walls. The exterior walls are of Warsaw bluestone and the roof of cypress shingles, stained green. The interior walls are of white enameled brick, which is easily kept clean and does not absorb light. The ceiling is plastered and canvassed and the canvas painted and decorated. The terrazzo floor has a turntable in the center, and there is a pit for convenience in getting at the under parts of cars. Between two angles, and directly under the windows, is a bench, and under the bench are tool cupboards, drawers, and so on. Cabinets with self-measuring pumps for gasoline and lubricating oil are placed close to the wall near the large double doors, and closets for hanging up clothing between the windows.

The garage was designed by Frank J. Lindsey & Son, architects, of Middletown, N. Y., and built under their supervision. It was finished about six months ago and is now in regular use by the owner.

The 20th Century Farmer.

VALPARAISO, IND., March 12.—Here is a piece of news that ought to bring a smile to the face of every autoist in the land. An Indiana farmer is an agent for an automobile—not only is he the owner of a "devil wagon," of which soil tillers are wont to say scathing things, but three of his farmer sons own and operate them, and now the father is spending much of his time in placing machines among the farmers of Porter county. The name of the farmer agent is L. H. Robbins, located at McCool, Ind., and he handles the Reo. Up to this time no less than fifteen farmers have bought and are running machines hereabouts.



THE INVITING INTERIOR OF THE MODEL CLEMSON GARAGE AT MIDDLETOWN, N. Y.

Albert Zimmerman, the only repair man here, will build a new garage this summer. There is quite an increase in sales of machines—two Buicks, a Pierce, and a Rambler have been bought here since the Chicago show. Twenty machines are now owned in Valparaiso. The town is on the line of a good road route from Chicago to Cleveland. Porter county is about to build a new gravel road to La Porte during the season.

A. L. A. M. Record of Sales.

Some interesting figures relating to the production and sales of automobiles in the United States during the last three years have just been brought out in the course of the litigation now in progress against certain manufacturers, dealers and users of cars alleged to infringe the Selden patent. M. J. Budlong, president of the Electric Vehicle Company, which is the plaintiff in all of the suits, was called to the stand in the United States Circuit Court to testify concerning the amount of business that had been transacted under licenses granted under the patent.

The following table summarizes the records kept by the licensors from figures furnished under oath by the manufacturers and given by Mr. Budlong in his sworn testimony:

Total number of cars sold under Selden license, Jan. 1, 1903, to Jan. 1, 1906.....	41,696
Total value of three years' sales, as above.....	\$63,141,437.22
Royalty on cars made under Selden patent license.....	\$814,183.52
Licensed cars sold in 1905..	17,840
Value of licensed cars sold in 1905	\$31,814,758.99
Increase in number of cars sold in 1904 over 1903	30%
Increase in gross value of sales in 1904 over 1903	58%
Increase in number of cars sold in 1905 over 1904	32.5%
Increase in gross value of sales in 1905 over 1904.....	66.2%
Average selling prices for 1903, approximately	\$1,170.00
Average selling prices for 1904, approximately	1,422.00
Average selling prices for 1905, approximately	1,784.00
Average selling price for three years, American cars, approximately	1,429.00
Average selling price for three years, imported cars, approximately	6,710.00

Thirty-seven concerns are now allied in the Association of Licensed Automobile Manufacturers, and it is claimed that their combined product constitutes a large majority of the cars made and sold in this country. This is the first time that such reliable and official figures have been furnished.

The European Circuit Will Start July 26.

PARIS, March 3.—Some modifications have been made in the arrangements of the European Circuit by the international conference representing France, Germany, Belgium, Austria and Italy, which recently met at the Automobile Club of France.

Instead of commencing on July 29, the date of the contest is now fixed from July 26 to August 15. This gives a twenty-one days' event, including five exhibitions at Toulouse, Milan, Vienna, Berlin and Cologne. The tour will include some long runs, the longest being from Paris to Limoges, and some difficult mountain climbs in the passage from France to Italy.

On the opening day 244 miles will be covered. The fourth stage, Grenoble to Milan, including the ascent of Mount Cenis, is 250 miles. Vienna to Prague gives 162 miles of bad road; from Berlin to Breslau is a distance of 190 miles, and from Berlin to Hanover there are 186 miles to be covered. From Hanover to Cologne gives 234 miles, and from the city of smells back to Paris is 250 miles.

When it is remembered that a class is provided for cars of about 8 horsepower, and that many of the roads are hilly and of

bad surface, it is not surprising that manufacturers hesitate to enter for the tour. Too high an average speed also is being imposed. Twenty-nine miles an hour—all stops being counted in the running time—is beyond the capabilities of nine-tenths of the touring cars over such roads.

It had at first been proposed to place a commissaire on board each car, but owing to the objection of several probable competitors, as well as the difficulty of finding sufficient suitable men, this measure was abandoned by the conference.

Sub committees were appointed to deal with the various details of the tour, such as tires, timing, weighing-in, classification, the press and exhibitions.

A special train will be run during the European Circuit, by means of which pressmen and others interested in the event may follow the competition through Europe. Meals will be served on the train and special sleeping accommodations provided, making the train virtually a traveling hotel.

Engagements for the tour are now open, and in a few days it will be seen whether the contest will fulfill the expectations of its promoters.

An Englishwoman's Herkomer Tour Experiences.

LONDON, March 8.—The Ladies' Automobile Club, G. B. I., had a most interesting afternoon, when Mrs. Edward Manville, the only woman driver in last year's Herkomer event, gave an amusing review of her experiences during the tour. Talking of her journey to Munich, Mrs. Manville said:

"Running into the Munich control was quite an ordeal; ever so many royalties were collected there, and when I made my appearance the people cheered, a band played our national anthem and the club presented me with a most magnificent laurel wreath tied up with Bavarian ribbons.

"The next day we were all invited to the Palace of Prince Ludwig of Bavaria, and I was presented to the Princess and to him, and he then made a point that I should go to the banquet which was to be given that night to the owners and drivers of the cars. Just imagine being the only woman among 270 men; but I could not get out of it after Prince Ludwig's request.

"I wonder if any of you have ever been to a German banquet—it is so funny. The speeches come between the courses, so that it takes a very long time to get along with the dinner. It was hors d'œuvres, then a toast to the German Emperor, soup, Prince Henry of Prussia, fish, and to my horror, Mrs. Manville. I wondered what I was to do to acknowledge it—my husband was ever so far away—but Prince Ludwig himself solved my difficulty by "protesting" with me, that is clinking glasses, immediately after

my health had been drunk. Then every man in the room did likewise."

Talking of her further tour, Mrs. Manville, relating two comical frontier experiences of the five Daimlers forming the British caravan, said:

"Of course, we had no end of frontiers to pass with all this dodging about, and it was often a difficult problem for the officials to find enough money to pay us off as we left a country. On one occasion it could not be managed, and I do not know exactly what he had to do, but the gendarme took us to another place, where he got the money. He dare not leave the cars until they had passed the frontier, where stood the man with the gun, so went two miles with us to the next country, and waited to see us over the boundary, and then had to walk two miles back in the pouring rain. At another frontier we had a funny experience of red tape. My husband happened to stop his car with the two front wheels in Germany and the two back ones in Switzerland, and the officials would have nothing to say to him until he had backed the whole car into Switzerland."

On the conclusion of the lecture, Professor von Herkomer, who was one of the club's guests, explained in a few witty words the meaning he had expressed in the trophy. The joy of movement, the absolute delight in the thralldom of the onward motion is represented in the figures of Mercury, most progressive and unconventional of gods,

and in the woman with extended arms, full of the *joie de vitesse*. The great artist dilated with seeming relish on the fact that although in no way a sportsman—"and that's where the joke comes in," he quaintly stated in parentheses—his name is now so closely coupled with a sporting event "that even the Munich critics, who so badly wanted to unfavorably criticise my works exhibited at Munich at the same time as the Trophy week, didn't dare to—I was too popular!"

Entries for Monaco Meet.

PARIS, March 3.—The entry list for the Monaco auto boat meeting, which opens April 1, shows a total of 94 boats, of which 61 are cruisers, 8 ships' boats and fishing craft and 25 racers. France has entered 36 of the cruisers and 12 racers. Italy and Switzerland have each 6 cruisers, while other nations are represented by only one or two each. England has entered 5 racers.

As in previous years, the meeting will be opened by an exhibition of the boats in a specially prepared open-air display ground, followed by one week's racing.

One of the most notable of the French racers is *Antoinette IV*, engined by Levavasseur and hull by Pitre. Baron de Caters has entered an 8-meter boat named the *Seasick*, the hull of which was built on the Seine and fitted with engines by the Itala company. Another Itala boat, with a French hull, is entered by Vincenzo Florio.

Four Mercedes craft will be at the starting line, two of them with French and two with English hulls. The *Trelle à Quatre* and the *New Trelle*, both owned by the English sportsman, Mr. Thubron, represent Brasier motors; Dietrich has engined the big 15-meter *Dubonnet*, hull built on the Seine by Tellier, and the Fiat colors will be carried by *Fiat XIII*, entirely of Italian construction. Panhard and Levassor, Martini, Hotchkiss and Delahaye have each engined one racer. Two steamers figure among the racers, the Italian *Roggero I* and an English boat owned by Lord Howard de Walden.

FOREIGN RACING NOTES.

The "Coup de Turin," which was to be run off as a speed race, has been postponed till 1907, as a suitable track could not be found near Turin.

* * * *

Only a single entry for the tire race organized by the Automobile Club of France had been received when the entry list closed on February 15. Upon payment of double entry fees, however, additional contestants may enter up to May 15.

* * *

A 400-mile speed race from Barecolna through Saragossa to Madrid will form one of the features of the celebration of the marriage of the King of Spain.

AUTO DRIVE, STEERING, AND SKIDDING.

By L. M. DIETERICH, M.E.

STEERING systems for power-driven vehicles present a subject for comparative study which contains more interesting matter than might be considered probable on first thought.

The condition under which these devices have to be operated are so numerous, and the subject so interconnected with other problems of automobile design, that the material for the study of their connection with other parts of the running gear consists of a number of statistical facts, the comparison of which reveals several conditions for the arrangement of the steering elements of an automobile which hitherto have seemingly found little consideration.

Strictly logical calculations, guided by the knowledge of practical results, may then develop rules touching general principles, as also defining conditions which should prove of material assistance to the designer and builder.

Taking a four-wheeled vehicle into consideration, we have the first condition for the possibility of automobile steering given by the method of the structural attachment of the wheels to the frame of the vehicle.

These methods are in close alliance with the drive of the vehicle, and the following examples embrace all the possible combinations:

1. All four wheels steering wheels. (As steering wheels such road wheels are understood which are capable of an angular throw of equal magnitude to both sides of their normal position and pivoted on a vertical axle, as near as possible to the center of the wheel. For the following discussion all steering wheels are assumed to possess the same maximum amount of such angular throw.): (a) front wheels driving, (b) rear wheels driving, (c) front and rear wheels driving.

2. Front wheels steering wheels, rear wheels of permanent position, parallel to longitudinal axis of vehicle: (a) front wheels driving, (b) rear wheels driving, (c) front and rear wheels driving.

3. Rear wheels steering wheels; front wheels of permanent position: (a) front wheels driving, (b) rear wheels driving, (c) front and rear wheels driving.

For every one of these possible combinations it is natural that the one condition must be fulfilled which calls for the position of wheel planes tangential to the path of the wheel center, as shown in Fig. 1, and not in the exaggerated position shown in Fig. 2, which naturally would prevent true rolling of the wheel and thereby destroy its essential functions. As the four wheel centers or wheel pivots are in unalterable relatively fixed position, they must

follow any path of the center of gravity of the vehicle in parallel or in concentric curves.

This condition with the previous one combined establishes the rule that all four wheels must constantly have such relative angular positions that their geometrical axes meet in one point. This rule being an accepted detail of automobile design, its theory needs no further discussion.

Combination 1c, 2b and 3a are not only theoretical possibilities, but in practical use, and therefore the best representatives of their classes for critical observation.

Taking up combination 1c, four-wheel drive and steering, Fig. 3 shows one ar-

of higher driving efficiency than the front wheels. It would be mechanically correct to have all four wheels of the same driving efficiency.

The propelling power of the front wheels f_1, f_2 , give a drive resultant dr_1 for the front axle, which, combined with the drive resultant dr_2 of the rear axle, form the drive resultant DR for the center of gravity. As seen in Fig. 3 this lies in the center line of the vehicle.

The path of the center of gravity being prescribed by the paths of the four wheels is not tangential to the center line of the vehicle. As a result, we find that the driving force of DR splits into an actual

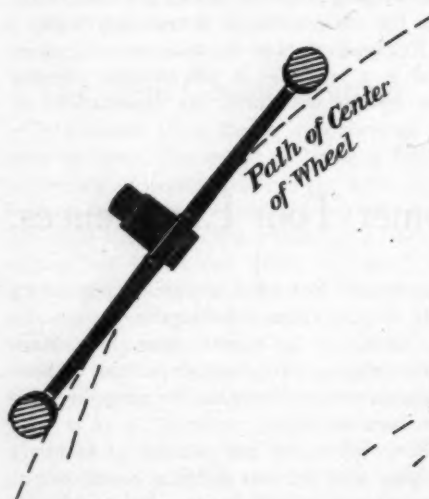


FIG. 1.—WHEEL PLANE TANGENTIAL TO PATH OF WHEEL CENTER.

range of this combination executed in a touring car design in which the center of gravity usually does not coincide with the geometrical center of the four wheel centers or steering pivots, but is located to the rear of same.

Steering connections between the four wheels were so arranged as to give the correct result indicated in Fig. 3 of all four wheels in tangential position to the path of their respective centers. The maximum angular throw a creating a minimum turning radius R for the center of gravity CG , which is for the loaded vehicle in its usual location behind the geometrical center of the wheel centers as indicated by the intersection I of the center line CL of the vehicle and its normal N from the turning center C .

As all four wheels are intended to transmit the same power or propelling force by virtue of their actual contact with the ground, we find from the location of the center of gravity that the rear wheels are

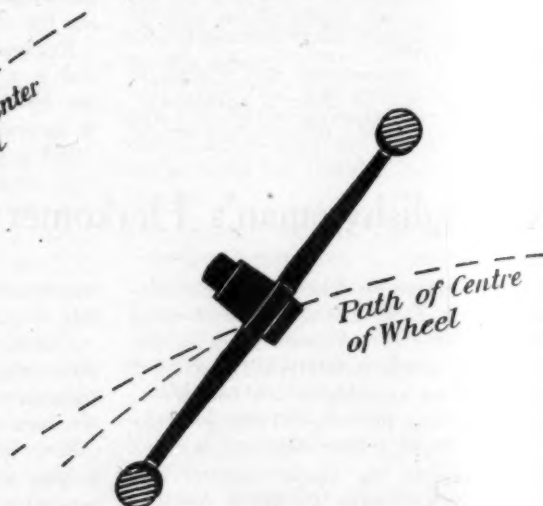


FIG. 2.—PLANE OF WHEEL AT ANGLE TO PATH OF MOVEMENT.

propelling force PF , tangential to the path of the center gravity, and a skidding force SF nearly normal to the center line of the vehicle. Its direction is fortunately opposite to that of the centrifugal force of the center of gravity, and therefore without practical influence on the wheel ground contacts on which it would otherwise (especially regarding the rear wheels) have a disagreeable skidding effect. The apportioning of this skidding force in four components to the four wheel centers results in accelerating forces for the front wheels and retarding forces for the rear wheels, nearly counterbalancing each other and skidding forces with the mentioned characteristics, making them practically negligible.

Combination 2b (Fig. 4) is the generally adopted arrangement of front wheel steering and rear wheel drive. In the same we find all four wheels tangential to their respective parts, which is correct, but the maximum angular wheel throw a , creating a minimum turning radius R —of double the

minimum turning radius by moving the normal N from its symmetrical position. Including well-known facts for the sake of completeness, we arrive at the following conclusions:

First: From a viewpoint of steering efficiency only, the four-wheel steering permits of quicker turning than either front or rear-wheel steering, which is especially desirable with long wheelbases and valuable for commercial vehicles, especially facilitating maneuvering in small space and the ready approach to curbs.

Second: From a viewpoint of driving efficiency only the four-wheel drive is su-

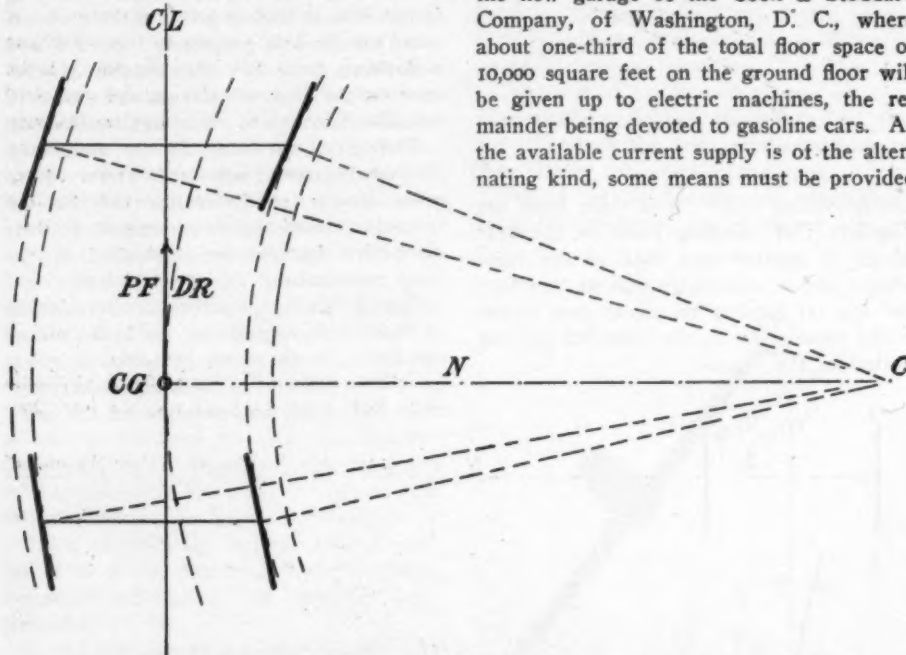


FIG. 6.—DIAGRAM SHOWING AN IDEAL CONSTRUCTION OF FOUR-WHEEL-DRIVING AND FOUR-WHEEL-STEERING VEHICLE ON WHICH NO FORCE CAUSING SKIDDING IS EXERTED WHEN TURNING A CORNER.

perior to either front or rear-wheel drive, as the whole tractional friction of all four wheels can be used with an approximate proportion of 100 per cent, to 60 per cent.

Third: The four-wheel steering arrangement is the only one that will not create any skidding or appreciable retarding forces if the center of gravity lies in the intersection of the vehicle center line and its normal from the turning center.

Fourth: If the center of gravity can coincide with the geometrical center of the four-wheel centers these advantages are maintained, and even traction for all wheels and possibility of following ruts (Fig. 3) is added.

Fifth: Special conditions have to influence the decision if these advantages are desirable under the necessary complication, which is not prohibitive in character for the steering action alone, but somewhat serious for the flexible drive.

Sixth: For a front-steering rear-driving arrangement tractional efficiency is increased and skidding decreased by moving the center of gravity as far as permissible to the rear.

Seventh: A rear-steering front-drive arrangement should have its center of gravity as near as possible to the front axle. It creates in itself no skidding forces of dangerous character.

Eighth: The most advantageous features of all combinations are from a practical point of view combined in a front drive, four-wheel steering with center of gravity as near as possible to the front axle.

Electric Charging Plant.

An unusually complete charging plant for electric automobiles has been installed in the new garage of the Cook & Stoddard Company, of Washington, D. C., where about one-third of the total floor space of 10,000 square feet on the ground floor will be given up to electric machines, the remainder being devoted to gasoline cars. As the available current supply is of the alternating kind, some means must be provided

for obtaining a direct current—the only current that can be used for battery charging. For this purpose five mercury arc rectifiers have been installed by the General Electric Company, of Schenectady, N. Y. The operation and construction of this type of apparatus was described in detail in *THE AUTOMOBILE* for December 14, 1905, so that further description is unnecessary here. Each of the charging units has a capacity of forty amperes, and is so arranged with regard to terminals that from one to ten vehicles can be charged simultaneously from each rectifier, the maximum number depending upon the capacity of the batteries. Any number up to ten can be handled simultaneously as long as the aggregate does not call for a load in excess of the capacity of the rectifier—that is, forty amperes. Any one battery can be disconnected without breaking the circuit and interfering with the charging of the remaining batteries. Electrical measuring instruments are arranged so that the batteries will each charge at the proper rate; the total direct current voltage and the total alternating current voltage are also indicated by the appropriate instrument.

A Rubber Plant in Colorado.

Colorado's arid sections which have been given over to the sage brush, cactus, and rubber weed, says the *Denver Post*, are to prove one of the resources of the State, and besides adding heavily to the wealth of the farmer and manufacturer, will assist in supplying the rubber found so necessary in these days of automobiles and bicycles.

E. C. Dunbar, manager of the P. F. U. Rubber Company of Durango, has just returned from Washington, where he secured the aid of congress and the agricultural department in taking the first step toward making Colorado one of the world's centers for the supply of rubber. This first step consists in the granting of a ten-year lease on 5,534 acres of land in the vicinity of Durango. This land will be used as an experiment station and the secretary of agriculture has assigned two experienced plant men and a chemist to assist the rubber company in propagating and securing enough seed to distribute to the farmers, so that a large amount of the rubber plant can be raised.

"The pinguay or rubber plant thrives better on this piece of land we have selected than in any other place we have been able to discover in the state," said Mr. Dunbar, who was in Denver for a few hours on his way from Washington to the scene of his future labors, the model rubber-weed farm, twelve miles southwest of Durango.

"We have experimented with the wild rubber weed, and now our efforts will be to cultivate the seed of this plant and go about the systematic cultivation of it so that a supply to run a large factory can be assured us. On this tract of 5,534 acres, on which we have secured a ten-year lease with the privilege of buying it at the expiration of that time, if we can assure the federal government that our work in this line has been worthy of consideration, we will plant the wild rubber seed. We will cultivate part of it under irrigation. Another portion will be left to absorb only the natural moisture, and other portions will be experimented with in different ways.

"The industry is in its infancy, but we feel assured on the strength of calculations we have made that there is little possibility of failure. The rubber weed, for the plant is nothing but a weed, will yield about three tons to the acre in three years, or about one ton a year. This raw product brings in a return of about \$30 per ton, and can be grown at an annual expense of about \$10 per acre. About 10 per cent. of the gross yield is the rubber gum used in the manufacture of rubber goods."

Before taking the car out of "cold storage" and filling up the tanks for the first time, be sure that none of the pipes are clogged. The lubricating oil pipes are apt to be clogged with oil and there is also a possibility of the gasoline pipes and the circulating system being partly stopped up.

French Runabout and Tri-car Touring Contest.

PARIS, March 1.—The French touring program which finished 1905 with an interesting six-days' endurance test for runabouts has opened in 1906 with a similar event. From the Darracq factory at Suresnes, on the border of Paris, has been sent away every morning three small cars—known here as voiturettes—and five tri-cars, on a daily run of about 130 miles. The tri-cars were represented by one Bruneau, two Austral, one Griffon, and one Quentin, while the runabouts consisted of two Grégoire cars and one Vulpes.

The route for each day's run was made known only at the moment of starting, the drivers being given maps of the course to be covered. The legal speed limit of 19 1-2 miles an hour was imposed, all repairs, fitting of tanks and regulating to be counted in the running time, and one penalty point was imposed for every minute or fraction of a minute slower than the average. No speed above 19 1-2 miles an hour was counted.

Rain, wind, snow and frost followed one another in quick succession, and before five miles had been covered drivers and cars were unrecognizable under a thick coating of mud. French roads are generally considered good, but under such climatic conditions no highway could offer a good driving surface. In the immediate neighborhood of Paris, especially, the highways were execrable and the fore wheels of the tri-cars plowed through the mud, sinking sometimes to the axles in the gluey mud. The last day's run, to Chartres and the Chevreuse Valley, was made in a gale of wind and rain that was particularly disagreeable for the light tri-cars.

The final result was first position for the Grégoire small car, driven by Civelli de Bosch, who had covered 750 miles in six consecutive days with but 233 points against him. This gives a loss of but 3 hours 53 minutes on an imposed speed of 19 1-2 miles an hour over bad roads in mid-winter. In reality the loss is less, for on several occasions the car arrived at the control before official opening time, but this increase of speed was not allowed to counterbalance a loss on another day.

Barriaux, on a Vulpes, came in second with 457 points against him. But for an accident his position would have been much better, the car having run throughout with remarkable regularity. Grégoire II, driven by Cornit, occupied third position with 1,576 penalty points.

Of the tri-cars, a Griffon driven by Bucquet, secured first place, with 787 points; a Bruneau tri-car occupied second position, with 1,298 points, and an Austral took third place, with 1,414 points.

The performance of the tri-cars is really more worthy of mention than that of the larger vehicles. An average of 19 1-2 miles an hour is a respectable speed to maintain

over a 750-mile run, and it is surprising that the penalty points are so low. More protection against mud is needed to make these vehicles suitable for all-around work, as was proved by the performance of the Bruneau tri-car, which took second place. With the smallest cylinder of the lot—2 1-2 horsepower—it made the runs with more regularity than any of its competitors, thanks to an enclosed chain drive and protection for the engine. Position was lost solely through an insufficiency of power to travel at the rate demanded.

From Motordom's Capital.

PARIS, March 2.—French automobile exports for the year 1905 are given in the bulletin of general trade at \$20,053,000. Separate figures of the automobile industry have only been kept since 1897, and are as follows:

1897—\$124,738.
1898—\$349,870.
1899—\$851,866.
1900—\$1,883,400.
1901—\$3,156,400.

1902—\$6,046,200.
1903—\$10,167,400.
1904—\$14,007,000.
1905—\$20,053,000.

The competition for a speed and distance indicator, for which a prize of \$200 is offered by Baron Henri de Rothschild, will be held May 1 and following days, engagements being received by the Automobile Club of France up to April 15. Entrance fee is fixed at \$10. In addition to a written description of the apparatus, each competitor must fit his speed indicator on an automobile and submit to a 100 kilometers test run, as well as a test at the laboratory of the Automobile Club. The indicator will be examined four times during the run, and the laboratory trials will deal particularly with the accuracy of the clock. Points to be considered in awarding the prize are: Precision, facility of installation, regularity, and strength, weight of the apparatus and its price when fitted to the car.

Scottish Club Trials in June.

LIVERPOOL, March 1.—The reliability trial conducted by the Scottish A. C. in May of last year was probably the most severe, and at the same time the most successful, event of the kind yet held in Great Britain. The rules governing this year's trial, to be held on June 13-16, have just been issued. The main idea underlying the rules is that the contest shall be a test of reliability, and no advantage can be gained by speeding in excess of the scheduled rate between the various stopping places. An important variation between the conditions of this and the former trial is that an absolute non-stop run is not now a necessary condition in obtaining an award. This provision has been made in view of the fact that last year several cars spoilt otherwise clean records by momentary driving stops, such as in gear-changing or taking on petrol.

The trial is open to motor vehicles of all makes, but all drivers must be registered by the Scottish Club or the A. C. G. B. I. Only one car of any specific make, type and horsepower will be admitted in each class, no cars of the same make being considered as of different horsepower unless the cylinder capacities vary by at least 15 per cent. The following classes are arranged:

A. Petrol vehicles, selling price of chassis not exceeding \$1,000.

B. Petrol vehicles, selling price of chassis exceeding \$1,000, but not exceeding \$1,750.

C. Petrol vehicles, selling price of chassis exceeding \$1,750, but not exceeding \$2,500.

D. Petrol vehicles, selling price of chassis exceeding \$2,500, but not exceeding \$3,250.

E. Petrol vehicles, selling price of chassis exceeding \$3,250.

F. Steam cars, irrespective of price.
No petrol car showing more than 12

horsepower on basis of following formula shall have a seating capacity of less than four:

$$H.P. = \frac{(\text{Dia. of cylinder in ins.})^2 \times (\text{No. of cylinders})}{8}$$

The trial will be practically a non-stop run, as the only stops not causing loss of marks are compulsory, excepting stops for tire troubles not exceeding one hour in all, and five minutes allowed each day for adjustment of brakes.

The club will award an efficiency gold medal in each class, marks being allotted for reliability (800), hill climbing in timed test (100), and lowness of fuel consumption (100).

The course extends over a distance of 670 miles. On the first day the run is from Glasgow, via Dumfries, to Edinburgh; then on the second day Aberdeen is the destination. From Aberdeen the course lies west to Pitlochry, right in the heart of the Grampians, while the fourth day's run finishes up in Glasgow.

This trial will without doubt arouse much public interest, and the publicity obtainable by participation therein might well induce some American motor manufacturers to enter cars.

The financial results of the Berlin show from February 4 to 18 reveal a decrease of about 2,000,000 marks (\$500,000) from the receipts of the 1905 show, in spite of the fact that this last Berlin exhibition was the largest and best attended yet held in Germany. The threatened motor tax and liability law are the cause of slack business and the chief sales market of the year has been a vast disappointment, as people will not buy until they know how they stand with regard to the government measures.

Automobiles in Russia.

IN her present state of internal disturbance automobiling cannot be expected to make much advance in Russia; it is not improbable, however, that the revolutionary agitation may signalize a general awakening of the whole Russian nation that in the near future may open a greatly increased market for all kinds of industrial products of the Western nations, including automobiles. In Russia the natural conditions are at once favorable and unfavorable to the sale of automobiles. While the long winters, intense cold, absence of attractive scenery and the wretched roads are against the common use of autos, the conditions in the cities, on the contrary, point to the probability of a considerable use of such vehicles later. The slowness with which street railways are built forces many families to keep carriages. These will doubtless turn to automobiles. The only serious obstacle to a rapid development of the automobile trade in the large cities is based on police supervision and regulation. Now that a great change has come over Russia's police and other policies trade in automobiles may develop unmolested. The different cities, however, have each their own ways of handling the automobile traffic. St. Petersburg and Moscow long since recognized the automobiles as a necessity, hence their regulations are comparatively liberal. Riga and other cities have been rather severe. In those places certain streets may not be traversed by the autos. Applications in writing for permission to use an automobile must be made and the machine must be subjected to expert investigation.

NUMBER OF MACHINES IN USE.

There are in use at the present time in Russia, including Poland, the Caucasus and Finland, from 1,200 to 1,500 automobiles, mostly of the lighter types; and in addition there are fully 1,500 motorcycles. The demand for automobiles is almost certain to grow as the empire emerges more and more from a mere agricultural country to a position among the industrial and commercial states.

Nobody has done much about building automobiles in Russia. A St. Petersburg firm that built motor boats tried its hand at the automobile. Another firm is now doing what it can to introduce the manufacture of autos on the basis of a well-known American make; also one resembling a well-known German type. During the season of 1905 this firm turned out thirty machines. The warm weather is practically the only time during which the automobiles may be run in Russia. Some firms buy all the parts abroad, limiting themselves to the work of putting them together.

EQUIPMENT REQUIRED.

A writer in *Handel und Industrie* says the peculiar needs of Russia in regard to autos has never been met. The comparatively great success of the American type,

he thinks, was due to cheapness, abundance of supply, skillful advertising, etc. Simplicity of construction and driving are the prime requisites. The simpler the machines the better. If a machine is ever built to meet Russian ideas, it will have to be strong, so as to go safely over bad roads. Great speed is not required because of the danger from bad roads. Low speeds are wanted because of steep hills and bad places that require the machines to go slow. The springs must be stronger and longer when possible than they usually are. They should be provided also with shock absorbers. Strong axles and crankshafts are desirable; in fact, are practically indispensable. Only large-sized pneumatic tires will be acceptable on the wheels. The road clearance must be considerable, so as to avoid shocks from obstacles. The gauge or distance between wheels must be somewhat narrow, because of the narrow, almost pathlike, roads over which the machines have to pass, particularly in the country. (The 4 1-2-horsepower De Dion is said to be a suitable standard for Russia's roads.) It must have sprags, brakes, etc., for the hills. The water-tank must be easy to empty in a short time and to the last drop, to prevent freezing. For the same reason the carbureter must be able to take up warm air. The machine must be as noiseless as possible. For trips into the provinces the only machines that are worth anything are those that carry a large supply of gasoline and have magneto ignition, for supplies may not be easily renewed and batteries cannot be obtained or recharged. The seats should be wide and comfortable, and the machine should have a top covering to guard against wind, sun and rain.

SIZE AND PRICE.

Russia is rich only in resources. Her people have no such huge sums as Americans and others to put into luxuries like automobiles. It is only by duly recognizing actual conditions that merchants and manufacturers seeking outlets for their goods in Russia will be able to realize fair, never fabulous, profits. First-class goods go fairly well only in large cities like St. Petersburg and Moscow. For these fairly large prices will be paid, as there are persons in those cities to whom \$4,000 or \$5,000 mean no more than to people in the large cities of the United States. One thing is possible, and for that all parties seeking sales in Russia must be prepared, viz., a demand not only for credit, but for long periods of credit. In the automobile business cash payments have prevailed in the past simply because the purchasers have been persons of great or considerable wealth. The best-informed parties say that the machines that will sell best will run between \$1,000 and \$2,000 apiece.

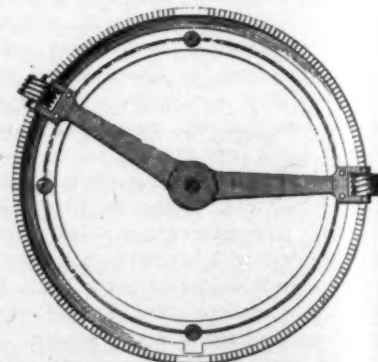
The United States will have to meet French and German makers in Russia's

markets. At present American makes are the favorites. This the Germans admit.

Following is a list of firms in Russia dealing in automobiles: St. Petersburg: Automobilclub, Nevsky, 108; "Pobjeda," Tanski & Co., Moika, 61; Freese & Co., Ertelew Per., 10; A. M. Fokin, Troizka; Emil Braun, Kamennooostrowsky Pr.; "Polytechnik," "Troizkaja; Hoffmann, Kleine Dworjanskaja, 19. Moscow: Automobile Club, G. Schemlitschka, Mjassnizkaja; Aktien Gesellschaft "Dux"; "Express" Neckarfulm, Banzhaf & Co.; Handelshaus Pochilsky, Twerskaja; Aktiengesellschaft "Enfield," Roshdestwenskaja; I. Block, Kusnezky Most. Riga: A. Leutner & Co., Alexanderstr., 129. Odessa: M. Asnach, F. Zorn & Co.; A. Reno; J. Glats & Co. Saratof: R. Ehrh. Warsaw: International Automobile Agency, Leschno, 25; Kowalsky & Trylski, Mjodowa, 4; Maison Ormonde; B. Wahren. Kief: E. Torkler. Kharkof; S. L. Popow, Usowskaja, 9. No-vorossisk: F. Burkhardt & Co.

Control Sectors.

A new sector, known as the Penau, was shown at the Paris Salon for ignition and throttle levers on the steering wheel. The two levers from the center of steering wheel are of flexible steel and bear at their ends worm screw gearing with the teeth on the upper surface of the sector. Owing to their flexibility, the levers can be readily raised so as to be pushed round rapidly in either direction, quite independent of the gearing,



PENAU CONTROL SECTORS.

or they can be worked round slowly by the finger and thumb, with the greatest precision and without fear of their being disarranged accidentally. They are made for both automobile steering wheels and for motorcycle sectors.

Persistent rumors are abroad to the effect that a trust will shortly be formed, to comprise all the important Italian automobile establishments, such as Fiat, Itala, Bianchi, and Gortha Frascini. No confirmation of this can yet be obtained, though in Parisian automobile circles the trust is not regarded as improbable. In view of the enormous progress which has been made by Italian firms during the past two years a combination of this nature would be immensely powerful and would probably result in lower prices for high-grade machines.

Autoing in the Ottoman Empire.

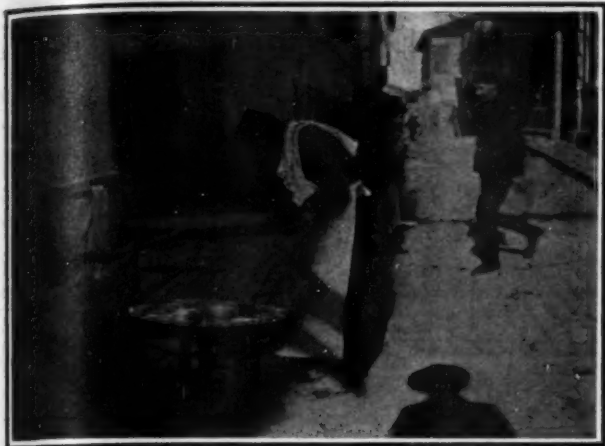
By FELIX J. KOCH, M.B.

IF someone had the nerve to risk Macedonia, which is to say, to ride over roads that would give a road commission heart throbs, and to take along a liberal supply of firearms—just enough to keep

that four times a day he goes to the fountain and washes hands, feet and face before he says his prayers. Kindly to the stranger, and with all the inquisitiveness of the East in his soul, he will leave his seat at the edge

Out from Sarajevoan to the Sandchak of Plevna the roads are patrolled for the mail-stage, and with a good mountain highway and splendid scenery the excursion is strongly to be recommended.

Autoing in Turkey would have its charms other than scenic alone. At intervals, along the roads, are the *hans*, or inns, where they will slaughter you a lamb, set it on a pole



SCENE IN ONE OF THE WELL-PAVED CITY STREETS.



A GALLERY IN ONE OF THE INTERESTING OLD TURKISH MOSQUES.

away brigand bands—he would be likely to have as unique an autoing tour as any in the world.

Of course Turkey is interesting, and, in places, beautiful.

Southern Macedonia, out from Salonica, is the artist's paradise. Ancient cities, old when the Christ was born, rise up, pink and yellow, red and blue, with spires and minarets, and long quays set out into the sea. About the town old walls extend, and

of the bazaar to look over the queer, horseless carriage and finger this or that.

Much as the Turk has been blasphemed at home, he is really a genial host and one need have little fear of traveling in his villages, or with him as guide.

The Bulgar and the Greek, however, are other parties. They, each in turn, are looking to the time when Abdul Hamid falls and all Macedonia will become part and parcel of Bulgaria or of Greece. And, in

fitted with a paddle-wheel turned by the nearest brook, and, while the roast browns delicately, your host gathers the long, narrow egg plant of the region and a few peppers and boils these both to a mushy consistency. Then there may be some *sli-vo-witz*, or prune brandy, and the meal is complete. While you eat he serves you and interviews you on the queer land across the seas, of which he has but dim concepts, and of your trip and your garments, for every-



MINARETS AND NARROW WALKS TYPICAL OF TURKISH CITIES.



BULGARIAN TYPES THAT ARE TO BE FEARED BY THE TOURIST

then, beyond, there stretches off the fertile rolling land of Macedonia.

If only to penetrate the streets of cities Turkey is interesting. Folk of all nations are here, and each in distinctive costume. There is the Turk; not dirty and swarthy—as we, judging by the ill-kempt fellows who come abroad, are loth to believe—but fair-skinned as any American; and so clean

order to hasten this time, they have organized into bands that prey each on the towns of the other, burning, looting, slaying, until Macedonia is the plague-spot of Europe. And it is these fellows against whom the lone autoist would have to guard. But there are roads in northern Turkey that are safe, and where one needs scarce any other than the regular escort.

thing about you interests. A little trinket from America will win his heart, and he will not allow himself to stand your debtor. He will gather plums from the trees along his roadside or bring out a cheese, not to mention exchanging the cigarettes or serving the coffee, which is but every-day politeness when strangers meet in the empire.

Between the inns there are the *kavanas*,

or coffee-houses, where, over a fire on the earth floor, the water boils perpetually for steeping the rich, brown liquor, and where one may sit out, beneath grape-vine lattices, and sip and breathe in the lazy languor of the east.

Nor is man all that interests in the Orient. Nature comes in for her share. North Turkey is beautiful, far south Turkey is charming. There is, in the latter, all the charm of a coast drive at the Atlantic's east shore with the added beauty of mani-colored villages, and even more gaudily-attired peasants working in the fields. Out on the sea, ancient barks, patterned after ancestors that carried spices from the east in Crusading days, ride along the horizon, and whether they hoist a black flag or no, no one seems to care. Little skiffs, too, go out to sea, and there are schools of fisher-boats that venture just so far from port as they think safe.

Then there are the mountain-lands of Turkey, where forests range untrodden for miles, and where only, here and there, the blue curl of smoke of some lumbering camp, rising skyward, gives inkling that man has come. In the cliff country the lone autoist must take his fare along, and he will find travel hard, though there are detours he can make and roads that are passable.

Now and then, however, autoing would have its drawbacks. The trail sets out fair and fine. Then, of a sudden, almost at dusk, it comes to a stream which horses ford and where there is no ferry, and then the autoist can do little other than return. Again, distances are deceptive and road-maps unobtainable, and one may go to town after town before coming to the one where fresh supplies may be had. A full kit of tools and duplicates of everything possibly breakable on the machine are essentials to a tour in this land.

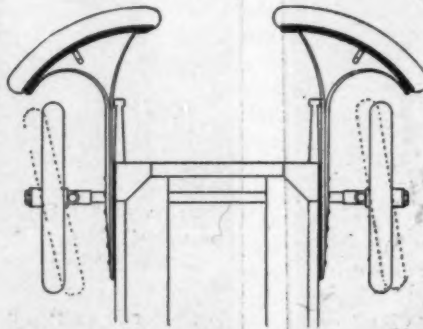
Turkey, however, remains an untrodden field. It is to be hoped this will not be long so. And when the enthusiast makes his advent, let him not forget a camera; if he does he will regret it the rest of his days.

For the first time since the tragic death of Count Zborowski the authorities have permitted a repetition of the Turbie hill climb during the Nice Week, but the course has been reduced from 15 1-2 to 9 kilometers, thereby robbing it of its dangerous turns. The week commences March 25 with a battle of flowers, followed by a *concours d'elegance* at Monte Carlo on March 28. Mile and kilometer races will be run on the Promenade des Anglais on March 29; and the hill climb on La Turbie on March 31. Several valuable prizes will be given.

The Queen Mother of Italy has booked cabins on a New York-bound steamer for the commencement of April, for herself, her suite of three persons and her chauffeur. Her new 50-horsepower Fiat has been especially constructed for the forthcoming American tour.

Simms Safety Buffer.

Notwithstanding the recognized susceptibility of the radiator and lamps on the front of a car to damage by contact with various objects and the desirability of having some sort of fender to thrust foot passengers out of the way to prevent them being run over by the car in event of their being struck, automobilists have been slow to adopt any sort of device to prevent such catastrophes. One of the most practical and unobtrusive fenders for automobiles



METHOD OF ATTACHING SIMMS BUFFERS.

ever brought to public attention is the device illustrated herewith, designed and constructed by the firm of Simms, in France, manufacturer of the well-known Simms-Bosch magnetos.

This device consists of a pair of pneumatic cushions mounted on felloes, each of which is secured at the flexible ends of a pair of springs of the form shown in the line drawing. The springs are bolted at their other ends to the side frame of the car so that the buffer extends in front and slightly to the side of the wheel and frame spring. The buffer springs are so arranged that when an impact against one end of the cushion deflects the spring on that side the opposite spring straightens and resists the pull, bringing the buffer back into position. The space between the inner ends of the

pair of cushions permits the chauffeur to crank the engine without difficulty.

The inventors have tested this device in many ways, and in every instance it has met their expectations, it is said. Any collision, however severe, is deadened or absorbed in a great degree, if not rendered entirely harmless. Contact with the wheel of a carriage or wagon in crowded traffic does not result in the crushing of an expensive headlight; the sudden stoppage of an automobile ahead does not cause the spring hanger to penetrate the radiator of the following car; and a glancing blow against a post or corner of a building does not break or bend the steering knuckle. The half-tone illustration reproduced from *La Vie Automobile* shows a chauffeur in the act of opening a pair of heavy garage doors with the buffers. A heedless pedestrian, when struck by a car equipped with the Simms buffers, is thrust to one side forcibly, but without serious injury, so that he cannot fall beneath the wheels, where he would surely have an arm or leg broken, even if he were no more seriously injured.

As the fender has proved so efficient and does not detract from the appearance of a car, it seems strange that some such device is not generally adopted, since it would surely pay for itself in time by the saving of repair bills, protecting such costly attachments as lamps and horns, and, very likely, by protecting the owner of the car from a heavy suit for personal injuries.

For Americans who contemplate automobile tours in Europe, E. B. Gallaher, American representative of Brasier cars, has organized a continental touring service, whereby every detail of a European trip may be arranged before the automobilist leaves this side. The plan provides for boxing and shipping cars, attending to customs and delivering the car where desired in Europe. The service will have representatives throughout Europe.



CAR WITH SIMMS BUFFERS PUSHING OPEN HEAVY DOORS OF A GARAGE.

An Auto Trouting Trip in the Sierras.

By LLEWELLYN H. JOHNSON.

Our route from Los Angeles lay over the main thoroughfare to Pasadena, and with spark advanced and throttle half open the little two-cylinder car climbed the 900-foot lift of ten miles in half an hour.

At Pasadena, with the peaks of the Madre Range towering above, we turned eastward, and for an hour and a half we tore along over fine roads. Finally, where a great gap

shingle, over which the little car bumped and slid, then across a ford with but a few inches of water—California brooks in summer are largest near the source. As we cautiously proceeded and rose higher the soil became firmer; the trail had become but a pair of tracks that crossed and recrossed the creek, often dipping down to the ford at an angle of 35 degrees and rising out of



THIS IS WHAT IS CALLED AN ARROYO ROAD IN CALIFORNIA.

in the mountain range showed the entrance to the canyon, we turned sharply to the left and commenced the long climb to our destination.

It is difficult to describe to Eastern readers who have never visited the great West, the slope of land, locally known as mesa, that leads up to the mountain ranges. Mt. San Antonio is 10,800 feet high; the center of the valley, nearly 10,000 feet lower, and from this point the flat country slopes evenly toward the mountains, presenting a grade of 8 to 15 per cent., but looking actually level by contrast with the towering heights in the background.

The road is as straight as the crow flies up this slope—a natural, ungraded track, only the width of the car in most places, sandy, and with many small, loose boulders—cutting a white line through a vast plain of sagebrush and mesquite.

If we had been equipped for rabbit shooting we could have had scores of them, for hundreds crossed our way, and every few minutes a bevy of quail would run silently to cover, or, if we surprised them, would flush with a great beating of wings. But we were looking for the speckled beauties.

After we had climbed for forty minutes on second speed, the road entered San Antonio Canyon and began to wind up the curving valley. After some time we descried San Antonio brook meandering through the gravel and around boulders that formed the "wash," and with some misgivings I drove into a vast bed of

it even steeper, like the roof of a house. One-third of the live cargo was disembarked and trudged behind to gauge the road clearance of the car, so that we should not bend a steering connection on a rock in the middle of the trail.

Up, up, up! We had left the cottonwoods and oaks and were amid the towering pines. The brook looked "fishy" and my fingers itched to drop the wheel and grasp the rod. Finally, after a scramble of almost incredible steepness, where the tires snapped stones out of the trail and sent them flying far below, we found ourselves face to face with a locked and barred gate erected on a rough

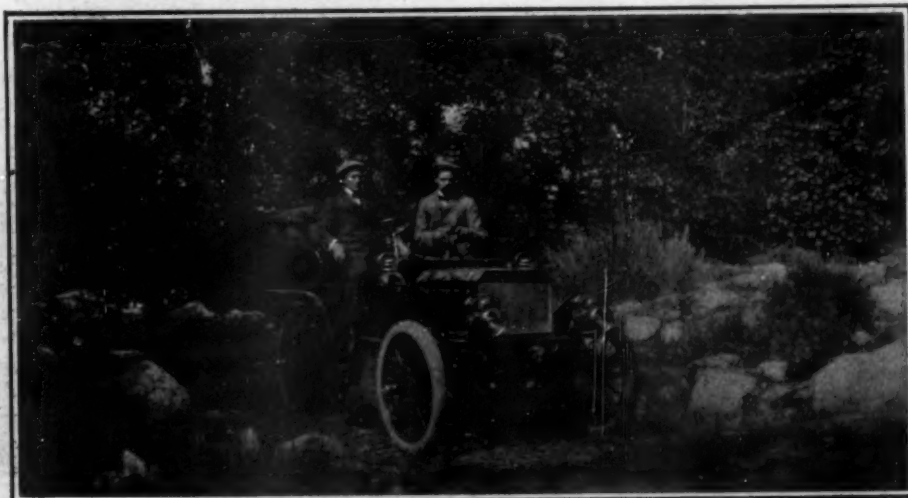
bridge over the ravine. We had reached the sacred precincts of the San Antonio Water Company and the little car could go no further.

By odometer it was nine and a half miles from the entrance to the canyon; vertically it was 6,000 feet. The tires were unscratched and the tank did not steam. The car was backed into a shady nook and we got out the duffle and proceeded to cook supper. The sun had long ago left the canyon and the smoke of the camp fire soon floated up toward the stars. An owl hooted in the distance; below in the arroyo, the bell-like gurgle of water plunging into a deep pool fired the imagination with thoughts of the big fellow and his mate that lurked in its crystal depths. We pulled a cover over the car to keep off the dew, took the cushions for pillows, and after a couple of pipes around the fire, turned in on a sheltered spot, with only the sky above.

Morning dawned like a brilliant jewel, with air crisp and fresh. Good appetites gave relish to the bacon and eggs and coffee. We then took our rods, creels and fly books and started up stream. Ice House Canyon and Bear Flats were both visited, and the bare, rugged cap of "Old Baldy" towered into the indescribable blue, seemingly but a stone's throw from our path. We caught trout, not swinishly, but sufficiently; ate our lunch under a magnificent sugar pine and drank copiously of the cold waters of the creek. We separated, and looped the stream so that each would have virgin waters.

After lunch we rested awhile and started down about 4 o'clock. It was easier going out. I alternated brakes to keep both cool and most of the road building we had done was intact, so that we made fast time.

At 7:30 P. M. we pulled up in front of the Saddlerock Chop House, where each hungry motorist was soon supplied with a thick sirloin and a seidel. We were almost desiccated by our exercise in the dry air of the mountains, and everything wet tasted good. Lighted lamps and a quiet run home completed a delightful day's outing.



COMFORTABLY LOCATED 7,500 FEET ABOVE SEA LEVEL.

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Up to the Law-Abiding Automobilist.

The reckless few continue to make trouble for the army of law-abiding automobilists. Passive condoning of the exasperating actions of this comparative handful of motor users and their leaving to the guardians of the law is no longer advisable or possible. If the considerate automobilist desires to enjoy the pleasures and conveniences of the pastime—often utilized in necessity, as in the case of physicians and others—he must come to the fore and aid in the punishment of these highwaymen of the road.

There will continue to be unfair arrests and the overzealous police will strain their power to trap all motorists. But this state of affairs is traceable to the hit-and-miss driving of the irresponsible element, though, when these ones are eliminated and subdued, there will follow a ready tolerance toward those who obey the intent of the law, even if they go astray in a minor and harmless degree. The traps scattered along the open road or in the outskirts of a city or town will be abandoned, and coincident with it will come an appreciation that automobilists as a class are entitled to the

same consideration as are all good citizens. The chaff of automobilism must be separated from the wheat, but the good automobilist, for his own self-protection, must assist in the work.

The Automobile Club of America, one of the leading clubs of the American Automobile Association, has set a recent example that should be emulated generally under similar circumstances. In New York City a distressing fatality happened on Jerome avenue, a favorite exit from the city for automobilists. One car traveling at high speed overtook another, and, hitting it, caused a crash into a center-of-the-street trolley pole. The man—he was a police sergeant—who had taken his family out for a day of enjoyment, found himself at nightfall a widower with three motherless children. The offending machine escaped, and the Automobile Club immediately offered a \$500 reward for its detection.

Automobiling organizations would do well to seek out these offenders, and, when found, to assist in their prosecution. If guilty, they should be suspended from membership, temporarily, and permanently if the circumstances warrant.

Competitions Mainly Technical.

Looking forward for the next six months one cannot but be impressed with the great difference in the outlook with respect to automobile contests this year as compared with a year ago. Twelve months ago a long slate of track race meets had been arranged, with all the large Eastern and Middle Western cities represented. Now, with the exception of straightaway beach racing at Jacksonville, Atlantic City, and Cape May, hill-climbing contests at Wilkes-Barre and Worcester, and the Vanderbilt Cup Race in October, there are no sporting fixtures of consequence decided upon as yet for the coming season.

Attention has turned from mere speed competition, particularly track racing, to touring and technical contests. The Automobile Club of America is contemplating organizing endurance and economy trials for spring and fall, and the proposal has been made for it to become the American pioneer in promoting tire, anti-skidding, alcohol fuel, and other semi-technical competitions such as have been conducted in Europe during a number of years past.

Undoubtedly there has been a reaction against the too great number of automobile events now crowded into the year, such as track and road races, hill climbs, endurance runs and shows—particularly upon the part of the manufacturer, who would greatly prefer a respite during which he can give needed application to his business. Decision of the Manufacturers' Association last fall to take no part in contests of any kind not promoted by itself or given its approval, and the action just taken to decline sanctioning any shows except those in

New York and Chicago, are clear indications of the sentiments of manufacturers.

A limited number of large and important competitions of varied nature each season, as, for instance, the annual national shows, the Southern winter tournaments, the Glidden tour, the Vanderbilt Cup race, a good mountain climb, an economy and consumption tour, commercial vehicle trials, and tire and skidding tests, organized and conducted by such national organizations as the American Automobile Association, the Automobile Club of America, and the National Association of Automobile Manufacturers, would be far preferable to a large number of minor events. They would be well supported by manufacturers, club members, and private individuals, since the standing of these organizations and their known resources would create confidence in their ability to carry them through successfully and make the results and records of real value.

The Owner and Speed Law Violations.

As the season advances and weather and roads improve, tempting the automobilist to bring out his car and take an early spin, the number of arrests for violations of the speed laws increases rapidly, and it is notable that owners, when arrested, almost invariably declare that they "had no idea they were going so fast."

These facts suggest that if owners really knew just how fast they were moving there would no doubt be less illegal fast running. When a car is driven by a chauffeur the owner usually occupies the rear seat, and there he is unable to see the speed-indicating instrument without getting up and craning his neck over the chauffeur's shoulder, and he really does not know how fast the car is moving. The chauffeur, with the instrument under his eyes, knows just what his speed is at all times, and, if not checked when driving fast, he naturally takes his employer's silence for consent to fast running. If the owner was able to tell at a glance, and without changing his position, how fast the car was really moving he would be in a position to check over-speeding if he so desired; and if he failed to do so, the responsibility for violations of the law would rest on his shoulders instead of those of the chauffeur, who is too often made the scapegoat for his master.

Doubtless it is much easier to make such a suggestion than to devise an arrangement whereby the same instrument may be seen from both front and rear seats; but it is not any more difficult than other problems that have been satisfactorily solved. For that matter, it would not be a serious matter if the instrument were placed where only the owner could see it. Two instruments could easily be fitted if the owner so desired; and there would then be no room for the excuse, "I did not know I was going so fast."

The New A. A. A. Committee Chairmen.

President Farson Names and the Board Approves of Messrs. Hotchkiss, Deming, Thompson and Gorham.

The March session of the Board of Directors of the American Automobile Association, held March 8 in New York City at the clubhouse of the Automobile Club of America, brought with it President John Farson's new committee recommendations. New men were selected to head the four important committees of the association.

Judge William H. Hotchkiss, of the Automobile Club of Buffalo, and president of the New York State Automobile Association, was placed at the head of the Highways Committee, succeeding Albert R. Shattuck, of the Automobile Club of America.

Paul Deming, of the Detroit Automobile Club, was given charge of the Touring Committee, Augustus Post having been his hardworking predecessor.

Jefferson de Mont Thompson, of the Automobile Club of America, succeeded the energetic Robert Lee Morrell as chairman of the Racing Board.

Sidney S. Gorham, of the Chicago Automobile Club and the recently elected A. A. A. secretary, added to his automobile titles by becoming the chairman of the Law Committee. Mr. Gorham is secretary of the Chicago club and president of the Illinois State Association, and has a thorough grasp of the legal complications of automobiling.

Judge Hotchkiss is well qualified for the Highways Chairmanship, and though he is known to be a very busy man, it is assured that the good work started by Mr. Shattuck will be continued and amplified.

Paul Deming belongs to the old guard of automobilism, participated in its earliest tours, and has traveled extensively both here and abroad. He will immediately take charge of matters in connection with the A. A. A. tour for the Glidden trophy.

Chairman Thompson of the Racing Board is likely to prove as good a find for the Racing Board as was his predecessor, and having been a spectator of all the important racing events both here and abroad, his qualifications are admitted without question. He will bring to the position a conscientious appreciation of its hard work.

Fourteen directors attended the March meeting,

Lewis R. Speare third vice-president, presiding in the enforced absence of President Farson, who was called to Chicago upon urgent business.

In recognition of the work that has been done by the Associated Automobile Clubs of New Jersey in connection with the avalanche of automobile measures in that state, the directors appropriated \$700 towards the expenses incurred by the legislative activity.

President Farson set forth his administration ideas to the Board by emphasizing the following points:

1. The question of good roads, with national, state and local aid, and with this in view, I have asked Mr. Gorham to prepare a uniform bill to present to the various state legislatures.

2. The question of a uniform bill to be presented to the various state legislatures governing the use of automobiles on the highways and in the city streets. Uniform laws on this question would be very advantageous from every standpoint.

3. The American Automobile Association should set its face like a flint against reckless and insane use of automobiles by irresponsible and careless chauffeurs and operators.

4. A closer relation between the various automobile clubs of America and Europe.

5. A better understanding of the rights of automobilists.

6. Restrictions covering the question of racing, so that the matter may be hedged about with every safeguard.

7. A uniform system of signboards throughout the country, under the sanction of the American Automobile Association.

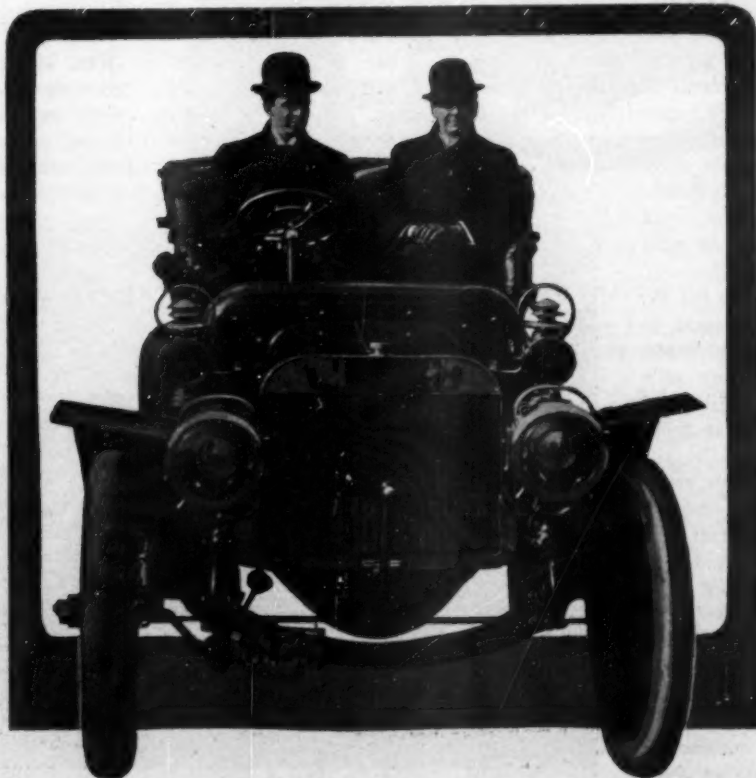
The Glidden tour was informally discussed, and it was decided to leave the route and all details in entire charge of the Touring Committee. Not long ago the National Association of Automobile Manufacturers was asked to suggest rules for the 1906 tour, and a conference between its committee and the new Touring Committee will take place in the near future. The old Touring Committee had such a conference on the same day that the Board of Directors met, but since this committee was to be replaced almost immediately, its powers did not permit of any complete understanding.

Ohio State Association.

CLEVELAND, March 12.—The second meeting of the Ohio State Automobile Association of the American Automobile Association will be held in this city March 15, and a permanent organization will be effected. It is very probable that the headquarters will be in Cleveland, and that a secretary's office will be opened here. It will be the aim of the organization to commence active work as soon as possible, and it is probable that several measures will be presented to the state legislature before it adjourns if possible.

The first effort of the organization will be directed towards improvement of the state roads. The Cleveland club, at a recent meeting, adopted a resolution to ask the legislature to provide for employing prisoners on the highways. An effort will be made to make this a state measure, and to secure the co-operation of union men and farmers. This would be an opportune time to take up such work, as there is an agitation in favor of building a new state prison, the present building being overcrowded.

The Cleveland automobile show was a great aid to the Cleveland Automobile Club. Since the event the membership of the club has been growing with leaps and bounds. Sixty-four operators applied for membership during February and sixteen since the first of the month. The club now has a membership of over 400.



SECRETARY, SIDNEY GORHAM AND PRESIDENT JOHN FARSON

Pennsylvania Decides to Go It Alone.

State Motor Federation Objects to the A. A. A. Because It Fathers the Vanderbilt Cup Race.

PHILADELPHIA, March 12.—The efforts of the leading spirits of the automobile clubs of Pittsburg and this city crystallized last week in the formation of the Pennsylvania Motor Federation, with the two clubs mentioned as charter members and a combined membership of 600. Immediate efforts will be made to add the clubs of Scranton, Wilkes-Barre, Erie, Pottsville, Lancaster, and other cities to the roll, and a recruiting committee will be put to work as soon as possible to gather into the fold all the unattached automobilists in the state. It was decided to remove the initiation fee for the present, and make the dues but \$1 a year.

Much to the surprise of local automobilists generally, the new organization decided not to affiliate with the American Automobile Association, it being argued that the national body's policy is at variance with that of the Pennsylvania Motor Federation in that the latter's objects in life, are the

securing of better roads and the protection of the interests of automobilists, while the A. A. A. seems to believe in the efficacy of road races as a means of furthering the cause.

It seemed to be the unanimous opinion of the organizers that road races on the order of the Vanderbilt cup race not only do not benefit the industry, but are actually hurtful.

The president of the Automobile Club of Philadelphia, Isaac Starr, resigned his office in order to accept a similar position with the P. M. F., and Paul C. Wolff, of Pittsburg, was elected secretary-treasurer. The offices of the new organization will be established at once in Pittsburg, with Mr. Wolff in charge. W. A. Dick, who succeeded Mr. Starr as president of the A. C. P., was made chairman of the Legislative Committee, and P. A. Meixell, of Wilkes-Barre, chairman of the Good Roads Committee.

Jacksonville Will Have a Beach Race Meet.

JACKSONVILLE, FLA., March 10.—Dates and an official program of events for the Atlantic-Pablo Beach automobile race meet have been finally decided upon at a meeting of the Jacksonville Automobile and Power Boat Association, held this week in the Board of Trade rooms.

All owners of automobiles and auto boats and all good roads advocates in the city had been invited to attend the meeting, and many of the most representative residents were present. All were decidedly in favor of a race meet in April and of beginning active work to secure the construction of a first-class road and automobile drive from Jacksonville to Atlantic-Pablo Beach. The dates definitely decided upon were April 9 to 12, when the tides will be most favorable.

Careful examination of the beach led W. J. Morgan, promoter of the tournament, to advise having the races start at Burnside. Mile posts will be erected at every mile for a distance of twelve miles, and beyond that distance a post will be placed at every fifth mile in a thirty-mile course.

Arrangements have already been made for having four spans of the pier removed, giving a clear opening of sixty feet, the upright on either side furnishing a guiding-pillar for the drivers of the racing cars. The 100-mile race will be abandoned, and in its stead, a 60-mile race, to establish a new record and for a trophy statuette offered by Madame Sarah Bernhardt, will be run off.

Madame Bernhardt, always an automobile enthusiast, has become even more so since one of her countrymen, Victor Demogeot,

won the *Times-Union* trophy and the title of Speed King of the World. After some correspondence between Secretary Herbert B. Race, who is associated in the management of the noted actress for her appearance in this city, and Madame Bernhardt, with the aid of Senator Morgan, the Frenchwoman agreed to offer a trophy for the tournament. It is to be a statuette, of gold and silver, of the great actress, and she has stated that if her theatrical engagements permit she will visit Jacksonville during the tournament, present the trophy she has donated, and ride over the course in the car that establishes the new record.

During the meeting held to arrange for the tournament there was a reorganization of the Jacksonville Automobile and Motor Boat Association. After the meeting was called to order a nominating committee consisting of W. J. Morgan, Frank T. Cullens and Fred E. Gilbert, was appointed. Their nominations were promptly elected, as follows:

President, Charles A. Clark; first vice-president, Walter P. Corbett; second vice-president, W. R. Rannie; third vice-president, E. A. Groover; secretary-treasurer, Herbert B. Race; board of directors, D. H. McMillan, H. C. Hare, C. E. Garner, and the other officers of the association.

Secretary Race opened the Association roll-book, and everyone present signed the list and paid in advance, at least a portion of his dues.

RACING NOTES.

As a result of the Vanderbilt cup race on Long Island, it is stated that farm land in Nassau County, which at one time could be bought for \$250 an acre, has since been sold at more than double the figure. Thousands of people realized for the first time the advantages of Long Island for country homes, and as a result the Nassau County inhabitants are very much interested in securing the race again this year.

The Cape May (N. J.) Automobile Club will probably hold its first meet of the summer season early in July, at which time the new Cape May hotel will be open to the public. The removal of a jetty at one end of the Cape May beach has increased by several hundred feet its length, which has improved the course to a great degree.

The Austrian A. C. is arranging a small car competition for one- and two-cylinder cars from Vienna to Graz and back on May 12 and 13. All cars competing must have full touring equipment.



CHAIRMAN PAUL DEMING, OF THE A. A. A. TOURING COMMITTEE.

Thomas Will Build Three Cup Cars.

BUFFALO, March 12.—E. R. Thomas, maker of the automobile which bears his name, who is wintering in Southern California, made an announcement which will cause comment throughout the automobile world. For the first time Mr. Thomas has made known that there are now being constructed in the Thomas factory at Buffalo three high-powered racing cars to compete for the Vanderbilt Cup this year.

A telegram sent to John Farson, president of the American Automobile Association, several days ago will reopen the discussion that followed the action of the Cup commission, which disregarded three cars that finished in the Vanderbilt elimination trials and substituted three others to represent the United States. Learning that the racing board of the A. A. A. was about to be appointed, Mr. Thomas wired as follows:

"Robert Lee Morrell is said to be a large stockholder in the Locomobile Company. I respectfully urge that no one interested as agent or manufacturer of automobiles be appointed to act on the racing board. I am building three racers at a very large expense, for the sole purpose of winning the Vanderbilt Cup for America, and demand a square deal, which was not given me last time."

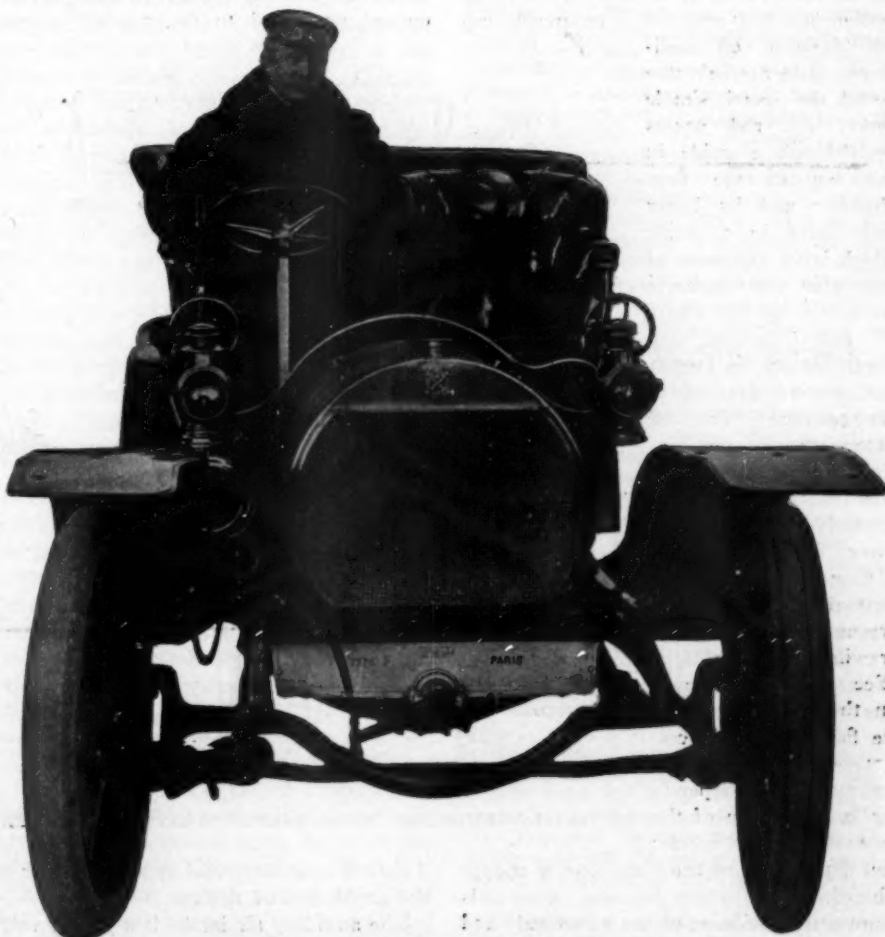
The announcement made of his intentions is as follows:

"I don't believe we should permit foreigners to send automobiles to America and carry off our cups. I am sparing no expense to turn out cars capable of competing with any, and have engaged a driver who will pilot my racer at a speed to equal that of any car the foreign makers may send over.

"Last year what was known as an elimination trial was held to determine the five cars which should represent America. My car qualified. I had no pull on the board, and was counted out with two other machines in favor of cars which had failed to qualify in the test race and later broke down in the real contest, all making a miserable showing. I was at no time given a square deal. Four of the members of the committee which selected the cars to race were interested in certain makes and three

had cars in the contest. An outsider could not expect very much under such circumstances, and I certainly received very little consideration.

"This Vanderbilt race is the automobile classic. It should be America against the world, and if money and skill will bring that cup where it belongs, I mean to get it. If I lose the race it will cost me \$40,000; if I win, that means \$25,000 more for the driver. By all means a racing board ready to act with all fairness should be appointed. I want a square deal, and will insist upon it, before going into another contest."



J. DE MONT THOMPSON, CHAIRMAN OF THE A. A. A. RACING BOARD, AND MEMBER OF VANDERBILT CUP COMMISSION.

Indianapolis May Have a Five-mile Track.

INDIANAPOLIS, IND., March 12.—There seems but little doubt that this city will have a five-mile automobile track, and that Carl G. Fisher, of this city, will build it at his own expense.

In a letter to the State Board of Agriculture, having charge of the Indiana Fair Grounds here Mr. Fisher has offered to construct the track at his own expense if the Board will permit him to locate the track inside of the Fair Grounds, to run around the grounds just inside of the fence.

Mr. Fisher called attention to the fact

that he is backing a movement for an outdoor show next fall and that the track would be an incentive for the show to be held here. He proposes to make the track sixty feet wide excepting at the turns, where it would be 100 feet wide. It is expected that some of the best races in the country could be secured with such a track as an inducement.

The proposal seemingly does away with a troublesome proposition, as many efforts to obtain a tract of ground large enough for a five-mile track have been futile. The

Board is understood to be favorable to the plan, and there is no doubt that the contract will be entered into if the necessary details can be arranged in a satisfactory manner. Mr. Fisher expects the track to cost \$12,000, and men are now staking off the proposed track.

For High Powered Ones.

The Pennington (N. J.) speedway projectors are agreeable to merging their course into the proposed New York-Philadelphia highway for automobilists. Emerson Brooks, who has been particularly energetic in the Pennington matter, is responsi-

ble for the statement that the Pennington directors are heartily in favor of the New York-Philadelphia road, though he believes that John Brisben Walker's estimate of \$6,000 a mile, with a width of eighty feet is too low. A cost of \$24,000 per mile, is the figure given by Mr. Brooks.

It is probable that the Easter meet of the Atlantic City (N. J.) Automobile Club will take place April 26, 27, and 28.

Barney Oldfield is now in the South, with W. H. Pickens again acting as his manager. Race meets may be arranged to place at Atlantic and Savannah, and other southern cities.

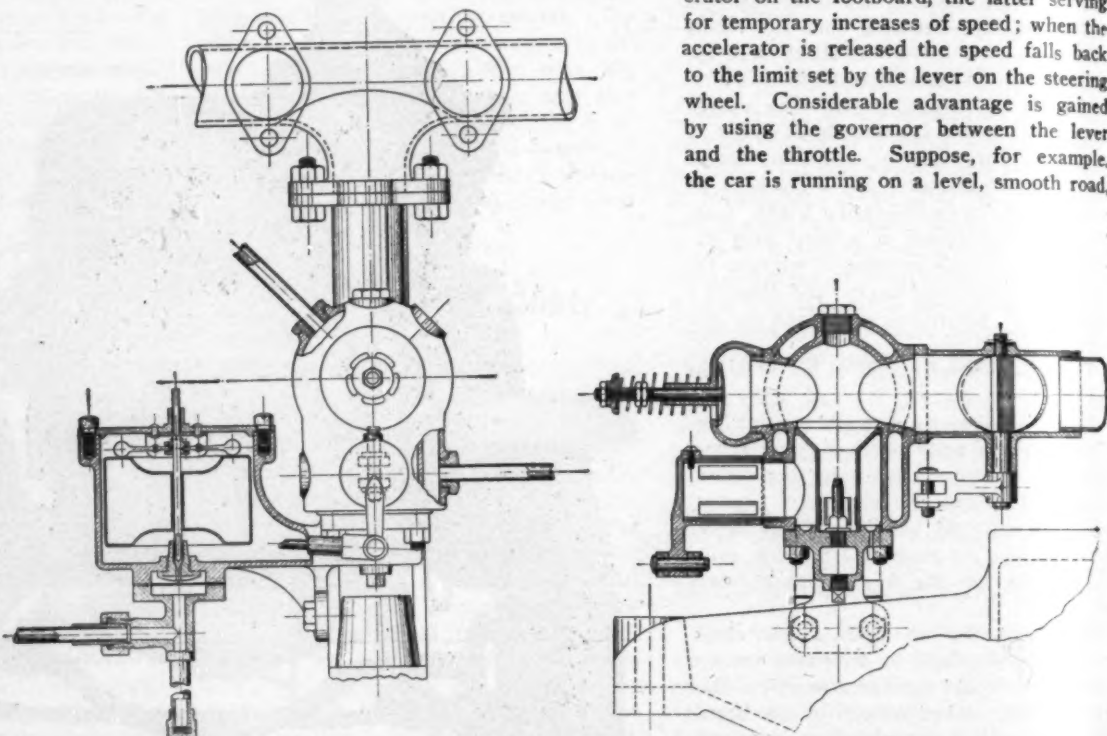
Packard Automatic Carbureter.

THE carbureter illustrated by the accompanying line engraving is an interesting example of American carbureter practice, and embodies such features as governor control, automatic adjustment of the mixture at varying engine speeds, and maintenance of a comparatively high temperature by means of a jacket filled with hot water, when the engine is running, from the circulating system.

The gasoline from the tank enters the float chamber at the bottom, first passing through a strainer from which any dirt may fall to the bottom of a little trap directly underneath; the trap has a removable cap for draining off sediment. The needle valve is of the usual simple form; the rod passes up through a guide in the top of the float chamber and its lower end slides in a guide which is an extension of the valve seat; grooves are cut in the rod where it passes through the lower guide to permit the upward passage of the gasoline. The rod passes through the center of the float, but the float is free, not being attached to the rod. The valve is opened and closed by the float through a double lever arrangement which the drawing shows clearly. (See left-hand view.) On the rod, just above the float, is a little collar; two levers are pivoted on brackets depending from the top of the float chamber inside; the short inner ends of the levers engage with the collar while the long outer ends terminate in balls which act as weights and keep the valve normally open. As gasoline flows into the float chamber the float is raised, coming up against the balls and closing the valve; when the level of the liquid drops the float drops with it and allows the balls to descend, again opening the valve. In actual operation there is very little fluctuation, the valve remaining slightly open and allowing the passage of gasoline fast enough to replace what is used by the motor.

Passing from the float chamber through a large passage of rectangular cross section to the spray-nozzle or stand pipe in the mixing chamber, the gasoline rises in the nozzle to the height established in the float chamber, the correct level being determined and permanently adjusted at the factory. The nozzle is screwed into place (see right-

hand view); directly under it is a plug through which sediment may be drained out. The spray nozzle is surrounded by a tubular sleeve, in the walls of which are four slots for the admission of air; this sleeve will be recognized in the engraving by its flaring top, where it opens into the globular mixing chamber above. The regular air intake is seen on the left of the engraving showing the interior of the mixing chamber; the cylindrical extension has slots which correspond with similar slots in a sleeve adapted to rotate on the cylinder; by partly rotating the sleeve the slots are opened or closed to the required extent.



SECTIONAL DRAWINGS OF THE PACKARD AUTOMATIC CARBURETER FITTED WITH HOT CIRCULATING WATER JACKET.

This intake is controlled by a small lever on the dashboard of the car.

The auxiliary air intake is a poppet valve normally held on its seat by a spring; the valve is shown just above the regular air intake. The partial vacuum caused by the intense suction of the engine at high speeds causes this valve to open and admit the requisite quantity of air in addition to the supply taken in at the regular intake. The gasoline drawn from the spray nozzle by the partial vacuum is taken up by the regular air supply, and the mixture finally passes to the motor through the pipe on the right of the engraving, in which is the butterfly throttle valve controlled, through the governor, by the operator of the car. The hot water jacket occupies an annular space surrounding the mixing chamber; the amount of water passing through the jacket and, consequently, its heat, can be regulated by means of a small tap in the

pipings. The air and gasoline in the mixing chamber are heated by contact with the hot walls and not only is the gasoline more thoroughly vaporized, but the quality of the mixture is more uniform because of the uniformity of temperature.

While the carbureter is automatic in its action, the driver of the car can adjust the quality of the mixture from the seat by means of the lever connected with the regular air intake, as already described. When the motor is running slowly all the air used enters through the regular inlet, the auxiliary valve coming into play only at comparatively high speeds.

Throttle control is effected through the governor by the usual lever on the steering wheel, and also by a foot-operated accelerator on the footboard, the latter serving for temporary increases of speed; when the accelerator is released the speed falls back to the limit set by the lever on the steering wheel. Considerable advantage is gained by using the governor between the lever and the throttle. Suppose, for example, the car is running on a level, smooth road,

and the operator sets his lever at a point that gives a speed of fifteen miles an hour. As long as the road conditions are unchanged, the same throttle opening will keep the car at the same speed; but if a slight rise is encountered, or the road becomes rough, or if a down-grade is reached, the throttle opening must be altered accordingly to maintain the fifteen miles an hour. Without a governor the lever must be shifted at every variation of the road surface; but with the governor, the throttle opening is varied automatically, and, within the limitations of the motor, the speed is kept constant under all conditions, the driver not touching his lever unless he wishes to change the rate of motion of the machine. The centrifugal governor is mounted in one of the half-time gears and is connected with the throttle through the well-known simple arrangement of sliding collar, fork and connecting rods.

PHILADELPHIA LIKES SHOWS.

Dealers in the Quaker City State that Numerous Sales Have Resulted.

PHILADELPHIA, March 12.—Whatever may be the views held elsewhere, there is but one opinion here as to the trade value of local automobile shows. Although the period between the holidays and the opening of the recent exhibition in the National Export Exposition Building was marked by a steady demand due undoubtedly to the excellent weather, it remained for the show to really set the wheels of trade a-going. Beginning with the phenomenal business which characterized every one of the seven show days, the following week had hardly opened before the beneficial effect of the show week's missionary work became apparent. At every branch house and agency demonstrators have been busy all day, every day, clinching the good impression made upon prospective customers during the week of the show, and the almost invariable result has been the filing of an order and the payment of a deposit. And in many instances customers have admitted that they became inoculated with the auto microbe while attending last week's exhibition. There will be an automobile show here in 1907.

Dropping generalities, here are a few specific instances to indicate the extent of the business done.

Manager Cohen, of the Reo branch, confesses to fourteen bona fide sales during and since the show—a period of ten days.

Manager Smith, of the White Garage, ascribes the six sales of last week directly to the show.

The Kelsey Motor Car Co. scored twenty-two orders since the opening night of the exhibition.

Manager Young, although having had the local agency for the Gilde car less than a month, rang up ten orders up to last Thursday.

The Knox Automobile Company owns up to six actual sales and the same number of "prospects" of such excellence that sales are practically assured.

Manager Hoffman, of the Ford branch, registered no less than fifty-five orders from the opening night of the show up to Saturday last.

Five sales during and four since the show is the record made by Manager Maltby, of the Winton branch.

The Foss-Hughes Company received and delivered four carloads of Pierce-Arrows and Cadillacs on Tuesday and Wednesday last, and will need two more carloads at once to catch up with post-show orders.

W. Wayne Davis, of the Keystone Motor Car Company, admitted the sale of eight Autocars during and since the show, and said that the company's entire allotment of Packards had been disposed of.

Manager Smith, of the Rambler branch, has taken orders with a recklessness that bodes some unpleasant quarter-hours with

customers who fail to receive their cars on schedule time. Henceforth, "until things simmer down a little," he said, "we will not promise delivery before sixty or ninety days." And so the story goes down "Gasoline Row"—excellent business.

The Philadelphia Automobile Trade Association, under whose auspices the show was held, made a big thing out of it financially, and at a meeting on the 20th the members will doubtless listen to the reading of the treasurer's report with no little satisfaction.

One direct result of the boom which resulted from the exhibition is the establishment of new branches and agencies here. Besides those of the Mercedes Import Company, at the southeast corner of Broad and Race streets, and Smith & Mabley, at the Bellevue-Stratford Garage, the Rainier Company has secured the old quarters of the La Roche Automobile Company, at 236 North Broad street; the H. A. Connors Company will establish a temporary office at 325 North Broad street until the building at the southwest corner of Broad and Vine streets can be fitted up for the reception of its line of Rochet-Schneider and Darracq cars; the North Philadelphia Auto Station, 3425 North Broad street, has secured the agency for the Crawford car, built at Hagerstown, Md. Several other agencies are to be placed here before the end of the present month.

The Palace Garage, 540 Washington street, Camden, N. J., C. C. Albertson, manager, has been given the local agency for the Cadillac and Marmon cars.

The Dietz Auto Company, composed of John Dietz and F. J. Plumber, the last-named formerly with the Foss-Hughes Company, has established a general automobile repair and garage business at 1313 Irving street.

THE GROWING GARAGE LIST.

Charles H. Childs & Co., of Utica, N. Y., are just completing in that city a new garage which they believe to be the finest between New York City and the West. It is located in the central part of Utica and is 90 by 100 feet in size. It will be equipped in the most up-to-date way throughout.

Vacant property at the corner of Station street and Schuyler avenue, in Kankakee, Ill., has been leased by Joe Fleming and A. J. Brown as a site for the erection of a garage. The building will be 40 by 60 feet.

Contracts have been let by the Motor Vehicle Garage Co., 1133 Main street, Buffalo, for the construction of a concrete garage building, 84 by 84 feet, at 632-638 Washington street, that city. This building will be used entirely as an electric vehicle garage. The company is also planning for a large building in the heart of the wholesale district to be used strictly for taking care of electric commercial vehicles. In its present establishment on Main street the company is able to store 100 gasoline cars and 150 electric vehicles.

TRADE NEWS FROM CLEVELAND.

Cleveland, March 12.—Cleveland's automobile "tire row" is shifting. For the last two years nearly all the tire concerns have had branch stores on Huron street, between Erie and Euclid, in close proximity to the rows of automobile stores on these two streets. Lately the owners of property in that district commenced to raise rents, and with one accord the tire people began moving, with the result that a few weeks will see the passing of the last tire store in that immediate neighborhood. The Morgan & Wright store and repair shop have been moved from 347 Huron street to 1613 Euclid avenue (new number). The G & J Tire Company will soon move from 337 Huron to 1837 Euclid; the Diamond Rubber Company announces that it will move from 323 Huron street to 1514 Euclid. The Motor Car Supply Company, which handles tires and supplies of all kinds, has removed from 345 Huron to 1829 Euclid.

The Oliver Electric Vehicle Company, of which W. O. DeMars is manager, has opened a large garage at 130 Murlison street. Mr. DeMars has been in the business since its inception, and until recently had a garage on Euclid avenue, near the entrance to Wade Park. The new establishment is a six-story building, with 30,000 square feet of floor space. The company will devote its entire attention to electric vehicles. It is not the intention to handle outside cars, and while a few machines may be assembled to order, the chief business will be the repairing, storing, and charging of electric vehicles. Especial attention will be paid to caring for commercial vehicles, and arrangements have been made to care for the machines of several concerns that will adopt electric delivery wagons this summer. The company has a well-equipped machine shop and facilities for charging a number of cars at a time.

The old factory of the General Automobile Company on Hamilton street, which was operated for several years by the Studebaker Automobile Company in the manufacture of two-cylinder runabouts, has been cleared out and the machinery removed to the company's main factory at South Bend, Ind. A portion of the old building is being utilized by the Royal Motor Car Company as an annex to its factory, which is only a short distance away.

The Cleveland Automobile Top & Trimming Company, recently incorporated with \$10,000 capital stock by A. M. Snyder, A. A. McCaslin, G. D. McGuirrin, Elmer G. Derr, and J. Dickinson, is now occupying a large building at 805 Vincent street, the quarters formerly occupied by the Central Automobile Company. The company will make tops and trimmings, and may go into the manufacture of bodies. The place has been well equipped with machinery and there is a blacksmith shop for iron work. Twenty hands are now employed, and the company is doing work for the F. B. Stearns Company, the Blakeslee Electric Vehicle Company, and a number of local stores. J. Dickinson is manager.

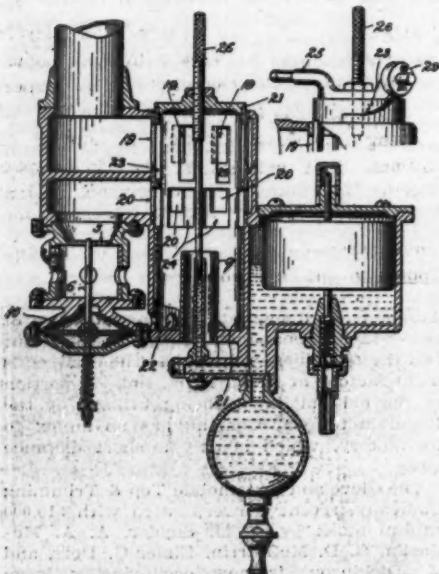
The Garford Company, manufacturer of automobile parts, has increased its capital stock from \$400,000 to \$600,000. It now seems almost certain that the plant of this company now in this city will be moved to Elyria, where the other factory is located, and a much larger plant erected. Mr. Garford promised his home city that the plant would go there if citizens would provide houses enough to take care of 1,000 workmen whom he expected to employ next year, and efforts in this direction are proving successful. Mr. Garford states that the plant will have about 100,000 square feet of floor space and that \$300,000 will be invested in new buildings and machinery. The company plans to cater to the commercial vehicle business more extensively another year.

Patents

Carbureter.

No. 813,653.—F. A. Law, of Hartford, Conn.

An automatic carbureter with a somewhat elaborate system of air and fuel control. The main air stream enters at the base of the tube *g* around the spray nozzle, and the opening of the latter is controlled by the needle valve formed by the threaded stem *26*. As the suction increases, the carbureted stream is diluted by air entering through the automatic valve *5*, whose stem is connected to a diaphragm *10*, which acts as a dashpot. The air thus entering passes through ports *20* and corresponding ports *24* in the annular shutter *21*, which acts as a throttle. The throttling action is obtained by rotating *21*, thus partly closing the ports *19*, through which the completed mixture passes. As ports *24* are wider than ports *23*, ports *20* are not affected. When the throt-



LAW AUTOMATIC CARBURETER.

tle is opened, the spray nozzle is opened also, and at the same time another set *22* of dilution inlets is uncovered. Both of these effects are produced by lifting *21* at the same time that it is rotated. For this purpose the arm *25* (see detail) by which *21* is rotated, is extended and carries a roller *29*, which runs on a camway *28*.

Carbureter.

No. 806,822.—O. Millard, of Flint, Mich.

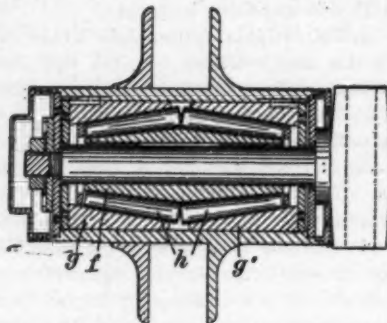
A carbureter having the spray nozzle closed by a needle valve which has an iron armature at its upper end, and is lifted at suitable intervals by the attraction of an electromagnet.

Frame for Glass Windshield.

No. 813,524.—J. C. Simm, Jr., and A. P. Olsen, of Chicago.

A frame whose principal feature is the

use of a grooved wood filling for the longitudinally-slotted tubes of which the frame is chiefly composed. The glass fits the groove in the wood, and the edges of the



LOCKWOOD ROLLER BEARING.

slot being wider than the groove, do not touch the glass.

Roller Bearing.

No. 813,905.—C. S. Lockwood, of Newark, N. J.

A roller bearing substantially of the form shown, having long, slightly tapered rollers *h*, with their large ends abutting, and suitable cones *f* and *g*, keyed to the stationary axle and to the wheel hub respectively.

Metal Body.

No. 813,460.—H. and A. P. Smith, of Springfield, Mass.

A method of joining the sheet aluminum panels without the use of angle iron supports, at the same time concealing the rivets and rendering them less liable to work loose than when iron supports are employed.

Combined Tachometer and Cyclometer.

No. 813,861.—C. H. Warner, of Beloit, Wis.

The combination of the Warner Automobile (Patent No. 745,468) with a cyclometer such as the Veeder.

Turntable.

No. 813,462.—H. R. Stickney, of Portland, Me.

A form of turntable which does not employ rollers under its outer circumference to support an unbalanced load. Bolted to the foundation *F* is a circular track *A*, on



STICKNEY AUTOMOBILE TURNTABLE, WITHOUT PERIPHERAL ROLLERS.

which run rollers *b* carried on the arms of a loose spider *B'*. On these rollers rests the complimentary track *c* of the turntable. A central bolt *a* is securely locked in the foundation, and at its upper end it carries a

ball thrust bearing *h*, which holds the turntable down. When the load is unbalanced, the rollers *b* nearest the load act as a fulcrum, and the tilting tendency is resisted by the ball bearings.

Non-Skidding Tire Shoe.

No. 813,934.—J. Albers, of Aix-la-Chapelle, Germany.

A studded leather band differing from the usual form mainly in that the outer strip, and not the inner, is wide enough to cover the rubber shoe completely, and the inner strip is scarfed down to a thin edge at each side. The rivets pass through both strips.

Tire.

No. 813,529.—R. G. Smith, of Buffalo, N. Y.

A tire composed of wood segments, backed by a thin strip of rubber, and bolted into a groove in the rim. A narrow steel band, recessed into the tread of the blocks, helps to hold them.

MOTOR BOAT ACTIVITIES.

Indianapolis, Wilmington and Chicago Plan for the Season.

INDIANAPOLIS, March 12.—The coming season will see a revival of aquatic sports in this city, and chief among these will be motor boat racing. Motor boat racing will be largely under the auspices of the Indianapolis Launch Club, which was organized two years ago with twenty-five members, the membership being limited to owners of boats. It is now planned to increase the membership to about 100 members, limiting it only to those who are interested in the sport, but not necessarily owners of boats. When the club was organized a fine boat-house was built, but this is to be succeeded by a fine clubhouse which will be built this summer and for which ground has been leased at Broad Ripple Park on White river.

A number of motor boats are being built in anticipation of the event, the largest of which is to be a thirty-foot boat, now being constructed in the Fisher Automobile Company's garage for Carl G. Fisher. The boat is to be fitted with a six-cylinder motor of special design, and it is expected will de-

velop 40 horsepower. Other boats from similar designs are being built for William Baker, G. A. Deitch and August M. Kuhn. Motor boat races will be held Decoration Day, Fourth of July and Labor Day.

Doings of the Clubs.

If sufficient enthusiasm is manifested in Brooklyn, the Long Island Automobile Club will take charge of a motor parade which will be held in the early summer. Whether the day is past when an automobilist can be induced to parade is a question, but a substantial array of vehicles would undoubtedly emphasize the great growth of the industry.

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The Peoria (Ill.) Automobile Club will hold its second annual banquet Monday, March 26, and it promises to be the most auspicious event in the history of the club. The Peoria club starts in on its third year with 83 members, and with brightest prospects for future growth and influence. It is now the second largest club in Illinois.

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About fifty automobile enthusiasts attended a dinner given by the members of the Camden Automobile Club in Camden, N. J., last Thursday night. President Samuel Sparks acted as toastmaster and made a brief address, in which he referred to the ignorant opposition which the automobile, in common with all other innovations, must overcome. The officers of the Camden organization are: President, Samuel Sparks; vice-president, George H. Rhedemeyer; treasurer, Alpheus McCracken; secretary, H. G. Ballinger.

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Students of the Polytechnic Preparatory School in Brooklyn, N. Y., have organized

a club, which will be known as the Poly Prep Automobile Club. Monthly club runs will be held and the organization will seek to interest the students of the school in automobiles and their construction and operation. Officers have been elected as follows: President, Roy E. Pardee; vice-president, James B. Cronin; secretary, J. C. Van Cleaf; treasurer, E. C. Gillespie. A touring committee will be appointed to arrange for out-of-town trips, the first of which is to be held on March 31.

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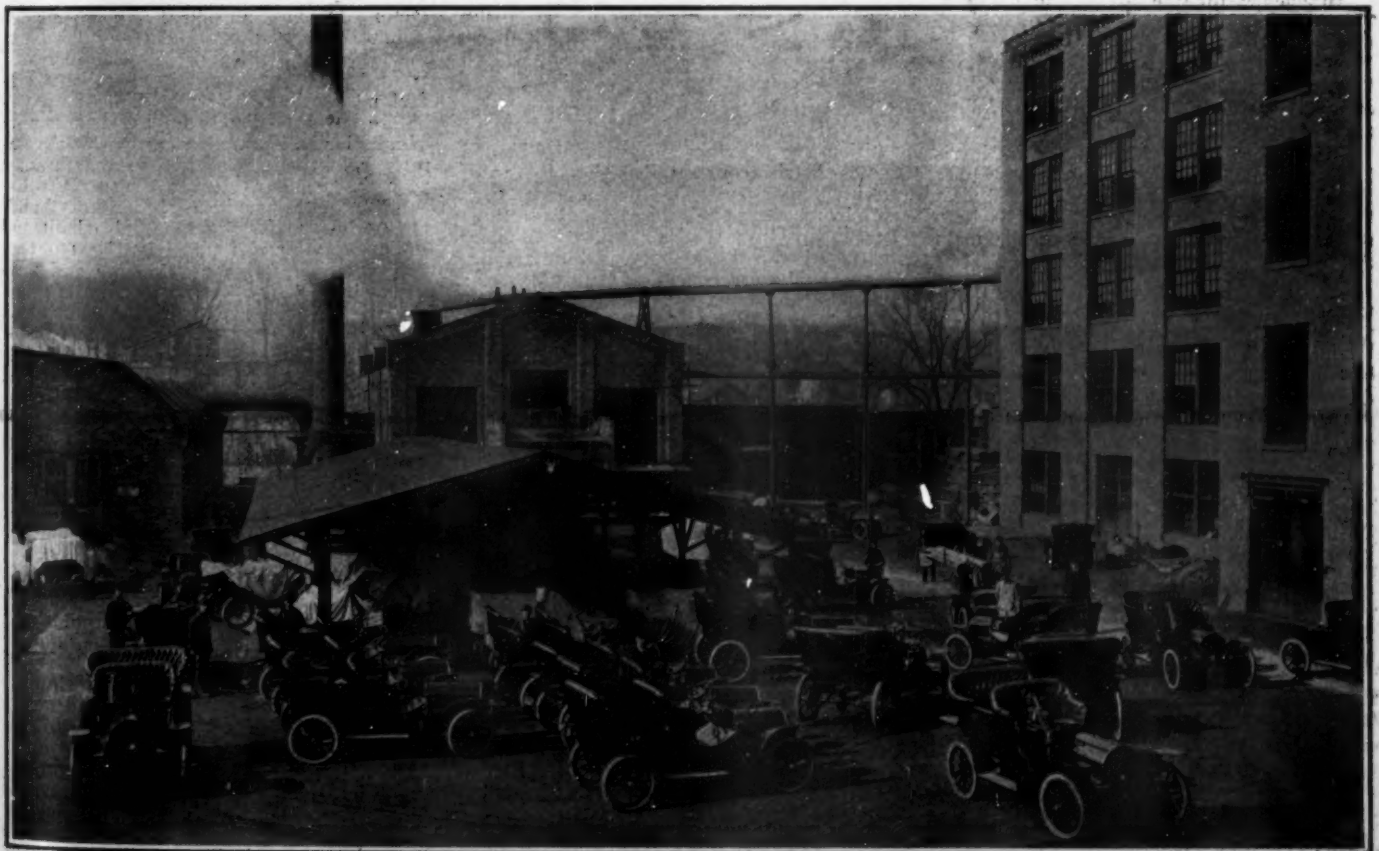
Plans for its forthcoming economy contest were considered at a special meeting of the New York Motor Club, held Monday night at the headquarters of the club in the Hotel Cumberland. No date was selected for the trials, but it is likely they may be held this spring. A six-days' run has been planned, somewhat on the lines of the first test held last fall, but several changes will be made in the conduct of the event. A committee is now drawing up the conditions that will govern the contest. Owing to the inability of F. J. Griffin to give the necessary time to the office of treasurer, the directors transferred R. H. Johnston from the second vice-presidency to that of treasurer, and put Mr. Griffin in the second vice-president's place. A. L. Kull and W. D. Hurlbut were elected to the Board of Directors. President W. J. P. Moore was appointed the club's delegate on the board of the New York State Automobile Association.

Wind Spoiled Airship Race.

The great airship race between Charles Levee, the French aeronaut, and Leo Stevens, his American competitor, scheduled to take place March 10, starting from Pittsfield, Mass., was interfered with by a furious gale that swept through the Hoosic valley. Both balloons were filled with gas, and the *Aero Club No. 1*, Stevens's car, broke from her moorings and escaped so effectually that it has not yet been found. Levee's craft was punctured while tugging at her ropes. Exactly when the event will take place is somewhat indefinite, but Comte de la Vaulx is expected to arrive in the near future with three new balloons, which will be taken at once to the Pittsfield headquarters.

A Period of Instruction.

CLEVELAND, O., March 12.—As a result of many protests from automobilists against the rigid enforcement of the recent road rules, Chief Kohler of the Cleveland police has receded somewhat from his position that first offenders must be brought in. He has ordered the bicycle and traffic squad to carry with them copies of the new traffic ordinance and to caution those violating its provisions instead of making immediate arrests. A number of women were stopped at the down-town district for cutting sharp corners. They were politely instructed just how turns must be made and were presented with copies of the ordinance.



THESE ARE BUSY TIMES FOR MANUFACTURERS—VIEW OF THE FRANKLIN COMPANY FACTORY YARD AT SYRACUSE, N. Y.

News and Trade Miscellany.

One of the most novel uses to which an automobile has yet been put is that of collecting washings. Battle Creek, Mich., can also claim the distinction of being the only city in Michigan where a machine is put to that use. Mrs. Christina K. Huber is the owner of the machine. She earns from \$20 to \$25 per week at washings and purchased the machine, which is a runabout, to assist her in collecting and delivering.

The relatives of Eldon Sarver, a five-year-old boy who was killed in Philadelphia last summer by being run down by an automobile, have petitioned the State Pardon Board to commute the sentence of William Myers, the chauffeur in charge of the car, who was sentenced to eighteen months' imprisonment for manslaughter.

Estimates for supplying three gasoline motor buses are desired by Austrian parties. The vehicles must have a carrying capacity of eighteen to twenty passengers, be divided into two compartments and have a roof suitable for carrying baggage. Manufacturers interested should address Karl and Emanuel Tauber, Czernowitz, capital of Bukowina, Austria.

The National Business Show will be held in the Coliseum, Chicago, from March 17 to 24, inclusive, under the management of H. A. Cochrane and F. W. Payne. The displays will embrace all sorts of office furniture and appliances for facilitating and systematizing the work and record keeping in business offices.

George O. Barnes, veteran driver for the Haynes Automobile Co., is now touring Texas with one of the 50-horsepower Haynes cars and reports good business. The road conditions through the state are fairly good.

An agency for the Compound cars has been placed by the E. H. V. Co., of Middletown, Conn., with Hegeman & Arnold, 1239 Fulton street, Brooklyn, N. Y., for the Long Island district. Another agency for these cars has been placed with Robert Kolbee, of Syracuse, N. Y.

L. Le Roy Moody, formerly with Norris Mason, is the new manager of the Napier Motor Car Company, of New York. Walter H. Woods, the former manager, has been made secretary and treasurer of the main company in Boston.

The Garden City Hotel, now familiar to so many automobilists on account of the automobile competition held recently on Long Island, has purchased two four-cylinder Locomobile gasoline cars for rental service. These cars will be delivered about April 1.

A Pittsburg branch will be opened in the near future by the Winton Motor Car Co., with Earl Kiser, the well-known racing driver, acting as manager. With him will be John S. Johnson, another ex-champion cyclist who naturally graduated to automobilizing. The Winton company has purchased the Hiland garage, at Baum and Beatty streets, in the center of the automobile district, and will take exclusive possession of the property on April 15. Meanwhile Kiser will share floor space with the Hiland Automobile Co., which on April 15 will remove to new quarters.

The James Macnaughton Co., 649 Main street, Buffalo, was recently incorporated with \$100,000 capital stock to manufacture and sell electric vehicles. The new concern contracts with manufacturers to market and handle vehicles built by the manufacturers to specifications furnished. The company will make a specialty of electric commercial vehicles in all types and sizes, and already

represents exclusively the Pittsburg Motor Vehicle Co., of Pittsburg; the Rech-Marbacker Co., of Philadelphia, and Brunn's Carriage Works, of Buffalo, and is closing contracts with two other large factories.

Nearly 500 exhibitors have been allotted spaces at Cordingley's Motor Car Show in the Agricultural Hall, London, which will open March 24 and continue till March 31. In addition to the representative display of British vehicles, Italian, French, and American models will be shown, while several new 1906 cars will be exhibited for the first time. Supplementary to the light car section, the show of heavy vehicles, including lorries, buses, and municipal vans, will be thoroughly comprehensive, affording conclusive evidence of the growth of this branch of the industry.

The Gaeth Automobile Company of Cleveland has sold six gasoline delivery wagons to the Automobile Express Delivery Company, which has been formed in Cleveland by B. H. Rose, L. F. Sholes and others. The company proposes to furnish delivery service for several large retail concerns and has already secured several contracts. One of the cars has covered the whole of the West Side for one of the large dry goods companies, doing the service of four delivery wagons at considerably reduced expense.

Authority to make arrangements for the establishment of a factory in America for the manufacture of the Michelin tires under the French patent was conferred upon E. D. Winans, who returned from France in January with a contract as exclusive representative in the United States of Michelin & Cie. for 1906 and thereafter. When in operation the American factory will make only the finest class of goods from the best Para rubber, it is announced. Michelin factories have already been built in Italy, England and Germany. The output of the French plant is 1,600 tires a day.

The Auto Brass and Aluminum Company, of Flint, Mich., has filed a voluntary petition in bankruptcy in the United States district court at Bay City, following an involuntary petition filed a short time ago by creditors. Referee in Bankruptcy Lee E. Joslyn says the creditors will now get together and allow the involuntary petition to take precedence. George Marston, who was appointed receiver, will be superseded by a trustee to be elected at a meeting of creditors at Flint, March 17. The company gives its liabilities as about \$25,000 and assets at about \$17,000.

The Snutsel Auto Supply Co. has been incorporated and has opened offices and salesrooms at 1534 Broadway, New York. Paul L. Snutsel is president and general manager; Joseph C. Hoffman, vice-president; and Rudolph Weinacht, secretary and treasurer. The company manufactures, imports and exports automobile supplies and accessories and controls the American rights for a number of European patents. Both wholesale and retail business will be conducted.

The Electric Automobile Co., recently organized in Savannah, Ga., with \$20,000 capital stock, has located in a new building on Bryan and Bull streets, having 12,000 square feet of floor space. This has been equipped with all modern appliances for the care and maintenance of electric vehicles, which will be handled exclusively. Having purchased the business of the Electric Supply Co., the new company becomes local agent for the Pope-Waverley line.

Joseph S. Walker, president, has developed the electric automobile business in Savannah and introduced these into Atlanta, where he is president of another company. Other officers of the Electric Automobile Co. of Savannah are: R. M. Hull, vice-president; Stephen N. Harris, secretary and manager. Nine other business men of the city are represented in the directorate.

A. H. Chadbourne has gone to Paris in the interests of the Richard-Brasier agency, 228 West Fifty-eighth street, New York City.

The Rainier Company has closed agency contracts for the sale of the Rainier cars during 1906 with the following: Van Automobile Co., St. Louis, for Missouri and Southern Illinois; Paxson Motor Car Co., Cleveland, for Ohio; A. H. Hayes, San Francisco, for California; Plaza Automobile Co., Brooklyn; T. S. Morse, Lenox, Mass., the Berkshire district. The Rainier Company will also open a Philadelphia branch shortly under the management of A. J. Picard, who will be best remembered as having established the first 1,000-mile non-stop record between New York and Boston three years ago.

The six-cylinder Napier, shown by Francis E. Drake at the Cleveland show, has a road record which staggers automobile enthusiasts in this city. Mr. Drake claims that the car has been run over 11,000 miles during the past few months with no repairs to working machinery. A near approach to this machine is Cleveland's municipal automobile, a 45-horsepower Stearns of the 1906 pattern, which was placed in service last September 17, and which has covered over 8,900 miles since that time. It is running every day at the average of seventy miles a day, and thus far the repairs to machinery have amounted to very little.

To provide for an enlargement of its factory and additions to the equipment, the capital stock of the Standard Roller Bearing Co., of Philadelphia, has been increased from \$2,000,000 to \$3,500,000. A four-story factory, 150 by 200 feet in dimensions, will be erected immediately for the manufacture of annular ball bearings, on which the company holds basis patents. During the past year the Standard Roller Bearing Co. has equipped with machinery a four-story building 95 by 200 feet, and has also built and equipped an iron foundry 70 by 150 feet, two stories in height; hardening and tempering building, 70 by 150 feet, and a crucible steel castings plant, 60 by 100 feet. With the new building to be erected the company will employ over 1,000 hands in the manufacture of steel balls, ball bearings, roller bearings, automobile axles and annular ball bearings.

Medals for mileage and encouragement of touring are this year to be offered by the federation of American Motorcyclists. There will be gold, silver and bronze, offered in each department, the competition opening April 1 and closing November 30, in order that riders residing in "all-the-year 'round" climates may not have an advantage over their less favored brethren. Mileage reports are to be rendered monthly to M. E. Toepel, chairman of the F. A. M. Roads and Tours committee, 930 Columbus avenue, New York, and a final and sworn statement submitted at the close of the year. The medals for the encouragement of touring will be awarded the motorcyclists visiting the greatest number of counties in the United States between the same dates. Verification in the form of attested post cards bearing the post-mark of a town in each county visited must be mailed to Chairman Toepel.